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CLAREMONT COLLEGE READING CONFERENCE

Tenth Yearbook 1945

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PERSONAL FACTORS
AFFECTING READING AND LEARNING

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PREFACE

*Peter L. Spencer, Ph.D.
Professor of Education, Claremont College
Director of the Conference*

The Claremont College Annual Reading Conference series is thirteen years of age. It enters this period of early adolescence with confidence. For the past thirteen years this conference has been presenting and amplifying a broad conception of the nature of the reading process. In the beginning the concept was too novel readily to be received and credited. However, as it found reiteration year after year and as more and more people were invited to consider it, credence in the validity of our conception has grown and expanded significantly. A reviewer of the Ninth Yearbook gave our idea great impetus recently, when he stated in the Elementary School Journal for May 1945, "—the contributors to the *Yearbook* present a point of view that merits large emphasis in any valid conception of the total function to be rendered by schools and good teaching."

It seems fitting that the thirteenth annual conference session and its yearbook should open with a re-expression of the fundamental ideas we hold concerning reading. Reading is presented as being the basis of the curriculum. In making this presentation reading is conceived as being a process which is activated by any or all the senses. One reads in smelling quite as much as in seeing. One reads things as well as the symbols which represent them. A valid program for reading development is the same as a valid program for educational development.

Re-education and rehabilitation through re-education are ideas very close to our thoughts during these days. The conferees and the yearbook readers are fortunate to have this important problem discussed by one who is intimately associated with it. Lieut. E. M. Thurber, Educational Services Officer at the United States Naval Hospital at Corona, gives a first-hand view of the "reading" problems of the returning veteran.

The Conference and the yearbook's reports have been organized into divisions. This is done merely to facilitate the work of planning and administering the discussions. The whole is inextricably interrelated but for convenience and clarity certain aspects are emphasized at certain times. Division One is principally concerned with physiological factors which affect reading (learning). Much progress has been achieved in understanding human abilities and human behavior since the discovery that glands are not mere "vestigial organs," but are really powerful and necessary organs affecting human welfare. Dr. Florence Mateer has pioneered in developing the educational implications of glands in human behavior. Her discussion of *Endocrine Disturbances, Affecting Reading and Learning* opens a vista for future development of educational services which all who read will sense.

Health and activities which promote health are aspects of the schools' reading program. Dr. Lowman has contributed much to our awareness of

this. The reader reads as a whole. He cannot isolate his vision from the other aspects of his being and still have functional vision. In his paper on the *Influence of Body Mechanics in the Learning Process* Dr. Lowman has contributed much to the understanding of physical activity as a reading activity. Faulty posture and/or bad bodily mechanics are themselves reading deficiencies. This division is fittingly closed by Dr. Kelley's pertinent discussion of "*The Wisdom of the Body*." She clearly brings out the intimate relation of health and learning (reading). The health services of the school are an integral part of the school's reading development program.

Division Two of the yearbook deals with personality and social phases of reading. One must "learn to read oneself, other people, and things." Perhaps the most serious deficiencies with reading are those which occur with human relationships. Dr. Clark's discussion of *Social Unadjustment and Learning Difficulties* illustrates how the reading of personal relationships affects other aspects of one's total reading. Dr. Strang re-emphasizes this point in her treatment of *Personality Development and Reading Difficulties*. Her use of illustrative "case studies" will give the reader of the Yearbook much help in meeting similar reading problems among his or her students. Mr. Coronel's presentation of an *Underlying Philosophy of a Bilingual Program* shows how the reading of social relations is necessary. Individuals and/or groups who strive to attain cultural understanding and the full functions of citizenship are frequently repressed and experience discrimination.

Division Three treats of visual and aural factors affecting reading. Miss Hathaway tells of the *Place of Vision in the Inventory of Personal Factors Affecting Reading and Learning*. She pertinently points out that "vision is an exceedingly complicated process." However, it is the visual sense upon which the school has largely concentrated its emphasis. Hence it behoves the school authorities to know the conditions and nature of vision. Dr. Clark calls attention to the all too common *Misinterpretation of School Tests of Vision*. Visual ability varies under the impact of use. The belief that "20/20" vision is adequate and that it will remain so under strenuous use is severely criticized. Dr. Clark makes the excellent point that it is not sufficient merely to learn how to administer tests of vision. Peculiarly enough, he thinks one should know as well how properly to interpret the results of such testing.

Aural reading is relatively speaking a new term. Many teachers think of reading only as a visual process. They fail to realize that spoken words are symbolic of ideas just as are printed words. Spoken words must be read as truly as other word symbols. The concept of *A Sound-Reading Program* suggests that all sounds affecting human ears need to be read. To learn to read them effectively is a part of the reading development program. Mr. Hargrave in discussing *Aural Reading in Educational Development* brings out a somewhat startling point, viz.: "children with a certain type of aural defect will fall into a certain behavior classification different from those with another type of aural defect, or of normal hearers, without regard for differences in any other physical, environmental or hereditary grouping." Miss Howe tells of *Auditory Factors Affecting Learning* in a manner which emphasizes their seriousness. She lists characteristic symptoms of those with pronounced hearing deficiencies and suggests modifications in school prac-

tices more adequately to treat them. Mrs. Stasney pointedly asks, *How Well Do They Hear?* She reports seventeen "case studies" which illustrate that efforts to improve aural reading ability are fruitful.

Division Four of the Yearbook considers certain reading problems with Spanish. Dr. Wiese, having worked for months as technical advisor for the Education Division of the Office of the Coordinator of Inter-American Affairs presents certain procedures designed to teach so-called "illiterate adults" how to read printed words. Her article on *Teaching Reading to Adult Illiterates with Films* will suggest to imaginative readers many devices for the more extensive use of audio-visual aids to learning for use in the schools. Dr. Davis presents many "reading problems" in discussing an *Education Program for Spanish-Speaking Americans*. Languages must be read in order that they may be effective in communication. In order to read a language one should know the culture which gave it birth and the people who use it. Reading social relations is difficult but highly necessary.

Teaching Spanish to *Elementary School Children* is the final article in this section. Mrs. Heap brings out that aural reading of Spanish may add much to the lives of children in this country. Visual reading normally and naturally follows. She rightfully makes a plea for developing abilities to read the language and people with whom our children must work out a new world economy.

Division Five may be thought of as the "miscellaneous" section. It opens with Mrs. Brydegaard's article on *Mathematics: A Basic Form of Reading*. Mathematics is presented as man's behavior with regard for quantity. The paper interestingly develops that field as a reading phenomenon. Mrs. Gray emphasizes *The Influence of Books on the Child's Personality*. She believes that we often underestimate the power of books to improve the personalities of children. This theme is reiterated and re-emphasized by Miss Fuller's *Our Children—Our Challenge*.

Mr. O. C. Keesey asks and answers the question, *How Important is a Skills Development Program for Middle-Grade Reading?* His paper will bear careful reading and might well be the basis for further discussion. For years we have been given studies of vocabulary difficulties of various types of instructional aids. Mr. Joe Parks has added to them with a study of *The Vocabulary Burden of Classroom Instructional Sound Motion Pictures*. This is a timely study which indicates that the vocabularies of audio-visual aids to learning are important aspects of the usability of such materials.

Music is important to the life of man. Professor Allen has contributed to the understanding of the music language in his treatment of *Our Idioms of Musical Expression*. Music calls for both visual and aural reading. We feel fortunate indeed to have this suggestive analysis of some of its reading problems.

Reading is the process of making discriminative reactions. All that enters into man's behavior is, therefore, a matter of reading. This broad conception has been explored by the thirteenth annual conference and by those who contributed to this tenth yearbook. Personal factors affecting reading are many and varied. No attempt has been made to treat of them exhaustively. The divisions of this yearbook identify certain of the major areas into which the factors may be cast. If the discussions have proved helpful, all those who participated in them will be pleased. However, as

was pointed out, doing the good things is better than merely reading statements about them. This yearbook and conference will be successful only if they promote better reading procedures and better program for instruction with regard for reading.

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Division I

Introductory

"Reading is the process of making discriminative reactions. All that enters into man's behavior is, therefore, a matter of reading."

Peter L. Spencer, Ph.D.

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READING: THE BASIS OF THE CURRICULUM

*Peter L. Spencer, Ph.D.
Professor of Education, Claremont College*

Education has been defined as the process of learning to perform efficiently appropriate adaptive behavior. Such a conception implies much to regular participants in this annual Claremont Reading Conference. The programs of this conference have proposed and have through the years to some extent developed the idea that the reading process is the process whereby effective adaptive behavior is achieved. Hence for those who subscribe to that concept, reading and educating become for all practical purposes synonymous in meaning.

The more one works with this idea the more its significance becomes clear. It is not a new idea which has been constructed out of "whole cloth" so to speak. People have long recognized that whatever one experiences one reads. Shakespeare pointed out that one may "read sermons in stones, books in running brooks, and good in everything." Tolstoi wrote that Nataska read an affirmative answer on the face of Anna Nihilovna. McCall in a timely editorial asks, "How well can you read yourself, and life, and others?" Reading the sky, the hands, tea leaves, etc. are expressions in common use which illustrate the fact that in general usage the term reading connotes the procedures of sensing, interpreting, and adaptively behaving with regard for whatever stimulates one. Only when the development of the abilities which facilitate reading is being considered has the meaning of the term been restricted.

Normally we are equipped with many senses. Each of them is adapted for use with certain aspects of the environment. By means of them we contact the world about us and even ourselves. These sensory clues are our only contacts upon which to build ideas and/or practices. Hence it is important that we use them properly in attempting to achieve adaptive adjustments.

Reading is done whether the stimulus is waves of light or waves of sound or both. Reading may be interpretive and adaptive behavior with regard for smell just as properly as it is with regard for printed words. One must read oral speech just as truly as one must read written or printed speech. Reading is the process by which behavior becomes adapted with stimulation. Hence it is unproductive and improper to restrict its meaning to refer to behavior with regard for only one type of stimulus. This is the characteristic defect of most prevailing concepts of reading and of the customary programs of instruction which have been proposed for the development of reading abilities. Most of the definitions of reading attempt to define it in terms of a special type of stimulus, viz.; printed words.

The idea that reading is a process of responding adaptively under stimulation immediately suggests that it is questionable to attempt to develop

reading abilities in isolation from the stimuli with which they are supposed to be used. The abilities are always used with regard for certain types of stimulus situations and should therefore be developed in connection therewith. The visual reading of *printed* word-symbols, for example, involves substantially different skills and abilities from those used in aural reading of *spoken* word-symbols. In like manner the aural reading of spoken words is a somewhat different matter than is the aural reading of an orchestral symphony.

Hence in a comprehensive program for developing more efficient readers there will be provision for many types of sensory experiencing. One must read visual stimuli, aural, olfactory, gustatory, tactful, kinesthetic, and other types. All of them are needed in making adaptive reactions within a normal environment. Each of them requires aids, techniques, and procedures which are appropriate for its particular stimulus pattern. The fact that rarely if ever does one type occur without some and perhaps all of the others adds much to the complications.

Instruction in reading very commonly consists in instruction in techniques which are adapted to one or at best a few of the sensory processes. No one will deny that such things are important and necessary but basically reading is more than techniques. It consists more properly in the development and the use of ideas for directing adaptive behavior. Since these are the things which constitute subject matter, basically reading is the process by means of which all subject matter is accomplished.

We have come in these conference sessions to distinguish between the reading of things, processes or relationships and the reading of symbols which represent but which actually are not such concrete materials. The reading of actual things, actual processes and relationships we have designated as "primary reading." Whereas, the reading of symbols we have called "secondary reading." The terms are designed to bring out an important relationship of which most people are aware but concerning which little seems to be done in the usual school program.

Symbols are human inventions made for the purpose of facilitating expression with a view to communication. Because the symbols represent things but are not actually equivalent to the real things they become hazardous as media for communication. In order that the use of symbols may be effective both the user and the reader must have roughly comparable ideas, feelings, attitudes, etc. which serve as their referents. Hence, "secondary reading" really to be effective presupposes a considerable development of "primary reading" which is related to it. In a very real sense one can do "secondary reading" only in the terms of the residue of ideas, attitudes, etc. which one has produced through related "primary reading." This accounts for many instances of mistaken meaning which are so prevalently reported. For example, consider the little girl who after a few visits to Sunday School began calling her Teddy Bear "Gladly." She had heard the people at church singing "Gladly a cross I'd bear." Not possessing a more adequate conception for the idea so expressed she projected the meaning to her Teddy Bear which had a peculiar appearance around the eyes. Hence it became "Gladly, the cross eyed bear."

In similar vein I well remember my utter disgust with the public school when first I attended it. There was a large class of children in the

first grade. Passings to and fro were all accomplished in military type of marching. We were told to "turn," "rise," "face," and "march." All such instructions I was prepared to execute properly and adequately, but consternation struck when the teacher instructed us as follows: "Left Left Left-right Left" indicating which foot to use in stepping. How was I to know that one was supposed to move the right foot after each time the left foot was moved? The instructions were quite clear. She expected us to step three times with the left foot between the steps with the right foot. I submit to you that that is a peculiar method of marching, but what is there in the instruction that shows one that such was not intended?

Evidence of similarly inadequate associations are often expressed in definitions. For example: "Arithmetic is when you work with numbers." "History is when you study about wars and things." "Geography is all about maps, rivers, globes." Such statements indicate a woeful lack of understanding of what such studies are basically, but the statements may be quite accurate in portraying what the student's conception of the subject is like. If such is the case, more extensive use of "secondary reading" in that field will likely be of doubtful value unless and until there has been established a better relationship between such reading and the "primary reading" which the student has accomplished and which bears upon the situation being considered. This suggestion argues for more vital types of "primary reading" in all phases of instruction.

It is easy to see that one reads his team-mates and his opponents in a game of ball. Similarly one can see that reading is involved in fitting a garment or in testing how well a food product is cooked. One can demonstrate that unless one reads well the evidences of interest or lack of it on the part of his audience communication may become very difficult. It is not difficult to show that the successful worker with metals or wood or stone is likely to be an astute reader of such materials. But difficulty is experienced when one tries to read history in any primary sense. The events of which the records tell have occurred and are no more. Only records remain and for the most part they are largely composed of symbols. We have pointed out that the meaning of symbols must be projected to them. Hence the pertinent question may be asked from which may these meanings be secured.

As an attempt to answer this question some have suggested "visual aids to learning." Some of these have shown considerable possibilities but for the most part they again utilize forms of "secondary reading." Perhaps the nearest one can come to "primary reading" in many of the fields of concern in the schools is the wider use of daily experiences.

Not long ago there was a discussion concerning the course of study for a certain elementary school grade. It seemed that most of the schools under consideration were conducting an activity in that grade on the "Westward Movement." By this was meant the westward migration following the discovery of gold in California and the related movements which occurred prior to and in conjunction with this trek. When attention was called to the fact that those "westward movements" were small as compared with the recent "westward movement" under the present war situation little interest was aroused. The related fact was brought out that the children in the schools had actively participated in the recent movement and could contribute to the study of it with many first-hand (primary reading)

experiences, but still there was reluctance to review the value of using such experiences as the point of departure. "Our culture demands that everyone knows about the "forty-niners," but just how this cultural demand can be realized by people who read secondary sources with few or no primary experiences to use as referents has not been determined.

Programs for reading development which are based upon narrow conceptions concerning the nature of the reading act and which utilize mainly symbolic records are likely to produce readers who use the symbols readily but who lack the meanings which are symbolized by them. One is reminded in this connection of the man who retired from many years of service with the railroad. His work throughout those years had consisted of walking along the trains as they stood in the station and tapping each wheel with a hammer. When he retired, a fine banquet was given him and officials of the company made speeches about his conscientious service. Then he was asked if he would like to say anything. The man arose and said, "Yes. I'd like to know one thing." Of course he was urged to ask whatever he wished so the man astonished everybody with the following: "I've tapped car wheels for this company for thirty-five years just as you said. I've done my job the best I could and I never asked no questions, but now, by gosh, I'd like to know what was I tappin' them wheels for?" His was a deficiency in aural reading, but he is not alone in this regard.

Reading is the core by means of which each subject is achieved. Reading is more than technique. It is more than habit. Reading is the process of making discriminative reactions.

EDUCATIONAL PROBLEMS OF RETURNING WAR VETERANS

*Ernest M. Thurber, Lieut. (j.g.) USNR
Educational Services Officer, U. S. Naval Hospital, Corona, California*

There are four purposes for presenting to the Thirteenth Annual Reading Conference of Claremont College this paper on "Problems of Returning War Veterans." They are:

1. Briefly to describe the Educational Services Program in hospitals of the United States Navy.
2. To list some of the educational desires expressed by servicemen about to be discharged to civil life from the United States Naval Hospital at Corona, California.
3. To stimulate the thinking of the participants in this Conference

toward courses of action to be taken in order to fulfill more adequately the desires expressed by the returning veterans.

4. To list recommendations that may be used in future planning.

In order to describe the function of the Educational Services Program in hospitals of the United States Navy, it would seem advisable to define the purpose and scope of the Rehabilitation Program of the Bureau of Medicine and Surgery of the Navy Department as stated on page one of the Navy Medical Department Bulletin Number 716:

"Rehabilitation includes all activities and procedures that contribute to the recovery of a patient from his ailment and prepare him to resume a normal life. The Rehabilitation Program has cognizance of procedures which supplement ordinary or usual professional treatment to expedite recovery and prepare the patient for the course he will follow after discharge from the hospital, and includes physical therapy, occupational therapy, physical training, educational services, and civil readjustment. In addition to these, the chaplains and technical personnel of the American Red Cross are included to the extent that their duties or services contribute to the broad aims of the Program."

"It is the purpose of the Rehabilitation Program to expedite the complete recovery and return to duty of all patients possible, and to prepare those whose disabilities necessitate their discharge for return to civil life with maximum adjustment to their disabilities. The Rehabilitation Program is intended to make such use of the time a patient must, of necessity, spend in a hospital as will contribute to this purpose."

"The responsibility of the Medical Department for rehabilitation starts when a patient first enters a hospital and continues until he has recovered and is in condition for return to duty, until treatment for his disability is completed, or until it is apparent that he will require indefinitely prolonged hospitalization and that transfer to a non-naval agency is indicated. The responsibility of the Medical Department does not include vocational training. Responsibility for such training has been assigned to the Veterans' Administration by existing law. The responsibility of the Medical Department will be met when the patient has attained maximum benefit from treatment and the groundwork has been laid for the social and economic rehabilitation which must be completed after the individual has returned to civil life."

The Educational Services Program is designed to provide Naval Personnel with voluntary, off-duty educational opportunities. Materials and instruction are furnished in two categories. The first category includes: voluntary classes, correspondence courses, self-teaching materials, educational and vocational counseling. The second category, called war orientation, includes instruction on the background and nature of the war by means of newstalks, lectures, pamphlets, and visual aids materials.

The Educational Services Program has been established at Recruit Training Stations, Naval Hospitals and major overseas and continental activities and to a limited degree has been extended to the Fleet.

The purpose of the instructional phase of the Educational Services Program is to provide an opportunity for naval personnel to build up their education toward advancement in navy careers, to make it possible for them to meet requirements for graduation from high schools or colleges

and to satisfy vocational and avocational interests. The purpose of the War orientation phase of the program is to improve morale of naval personnel by informing them of the origin, objectives and progress of the war.

All patients and staff personnel fill out the following questionnaire upon entrance to the U. S. Naval Hospital at Corona, California. (See Page 19).

Since the Educational Services Department has been organized at the Corona Naval Hospital, several tabulations have been made from the information included in the completed questionnaires. The last such survey was completed April 3, 1945. This survey included data from questionnaires filled out by 5135 patients. Of this number 891 or 17.5% completed 8 grades or less of formal schooling, 2596 or 51.4% had not graduated from high school, 4314 or 85.1% had not attended beyond the high school level, 106 or 2% had completed 4 or more years of college, 41% had attended one or more of the Naval Service Schools.

261 different types of hobbies were listed with major interest shown in the following: Sports, 2051 (including—hunting, 804; fishing, 785; swimming, 161; baseball, 131; golf, 62; basketball, 58; football, 50); Reading, 325; Music, 232; Collecting, 228; Photography, 189; Model Building, 163; Mechanics, 84; Dancing, 64; and Art, 49.

There were 208 types of work listed in the blank following "After you are released from the service what kind of work do you hope to do?" The following is a list of all occupations in which more than fifty patients signified their intention to return: Farming, 523; Student, 486; Mechanic, 223; Aviation, 221; Start Own Business, 192; Truck Driver, 173; Electrician, 133; Radio Technician, 114; Salesman, 93; Engineering, 92; Welder, 70; Diesel, 63; Civil Service, 62; Railroad, 61; and Construction Worker, 52. 661 were undecided as to what occupation they would enter following the war.

The Educational Services Department provides "Self-Teaching" textbooks on a loan basis without charge to Service personnel. These texts are similar to the standard textbooks used in the public schools. In addition to the usual subject content most of these are written in such a manner that many of the instructions and exercises provided by the teacher are contained in the text itself. The subjects treated in these texts vary from elementary school to college level. It is found from examining the list of these texts checked out to the patients that the following are most popular: Auto Mechanics, Electricity, Air Conditioning, Slide Rule, Farming, Salesmanship, Shorthand, Bookkeeping and Accounting, Organizing a Small Business, Psychology and Life, Radio for Beginners, Physics, Spanish Language Books, Mathematics (Algebra and Trigonometry), Geometry, Review Arithmetic, History and English Books.

Voluntary, off-duty classes are offered where sufficient interest is shown. The following classes have been in greatest demand: Radio, Auto Mechanics, Woodworking, Plastics, Mechanical Drawing, Photography, Spanish, Shorthand, Psychology, Typewriting, Slide Rule, Trigonometry, Algebra (High School), and Bookkeeping and Accounting.

After the Personnel Questionnaires are returned to the Educational Services Office, the men are interviewed. The questionnaires provide valuable information to the counselor. As a result of this interview the patients are started on educational pursuits in accordance with their needs and desires.

U. S. NAVAL HOSPITAL

Corona, California

Personnel Questionnaire For All Patients And Staff Members

Name _____	Last _____	First _____	Initial _____	Rate _____																																										
Ward _____	Diagnosis _____			Sex _____																																										
Service No. _____	Enlist. Date _____			Place of birth _____																																										
Date of birth _____				Reg. Res. _____																																										
Home address _____	Street _____	City _____	State _____																																											
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Are you interested in finishing High School or College? _____				Yes or No _____																																										
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Would you like training or information along this line now? _____																																														
Would you like to study, review, or attend a class in any of the following subjects? Indicate which ones.																																														
<table style="margin-left: auto; margin-right: auto;"> <tr><td>H. S. Math.</td><td>English</td><td>Auto Mech.</td><td>Psychology</td></tr> <tr><td>Col. Math.</td><td>Languages</td><td>Radio</td><td>History</td></tr> <tr><td>Chemistry</td><td>Accounting</td><td>Codes</td><td>Social Sci.</td></tr> <tr><td>Physics</td><td>Filing</td><td>Navigation</td><td>Art</td></tr> <tr><td>Biology</td><td>Shorthand</td><td>Electricity</td><td>Bldg. Trades</td></tr> <tr><td>Slide Rule</td><td>Typing</td><td>Refrigeration</td><td>Merchandising</td></tr> <tr><td>Bus. Adm.</td><td>Education</td><td>Economics</td><td>Agriculture</td></tr> <tr><td>Plastics</td><td>Photography</td><td>Printing</td><td>Ceramics</td></tr> <tr><td>Sheet Metal</td><td>Cobbling</td><td>Watch Rep.</td><td>Diesel</td></tr> <tr><td>Multilithography</td><td>Sign Painting</td><td></td><td></td></tr> </table>							H. S. Math.	English	Auto Mech.	Psychology	Col. Math.	Languages	Radio	History	Chemistry	Accounting	Codes	Social Sci.	Physics	Filing	Navigation	Art	Biology	Shorthand	Electricity	Bldg. Trades	Slide Rule	Typing	Refrigeration	Merchandising	Bus. Adm.	Education	Economics	Agriculture	Plastics	Photography	Printing	Ceramics	Sheet Metal	Cobbling	Watch Rep.	Diesel	Multilithography	Sign Painting		
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Suggestions and Comments _____																																														
Patients return questionnaires within 24 hours to Ward Doctor's desk.																																														
Staff members return questionnaires within 24 hours to Educational Services Office, Unit I.																																														
H. L. JENSEN, Captain, (MC), U. S. N. Commanding Officer																																														

In many cases it is necessary to contact their home schools in order to establish their credits. The American Council on Education has provided an invaluable aid in establishing the amount of credits to be awarded as a result of successful completion of the various Navy Training Programs. Most of the answers received from the local schools are very specific in regard to the number of credits awarded for the Navy Training and as to the number of credits needed to complete the requirements for a high school diploma or college degree. However, some of the answers leave much to be desired. I would like to quote one of these:

January 10, 1945
Jonesville, U. S. A.

"Dear Educational Services Officer:

We are sorry to hear that Bill is in the hospital. He left our school after having completed only 10 years of schooling. We hope you can do something for him as we were unable to while he was here.

Yours truly,
Principal of School."

End-of-Course tests are administered upon completion of the Self-Teaching texts. General Educational Development Tests are administered on both the high school and second year college level. The American Council on Education had adopted the following standards to be met by anyone taking the General Educational Development tests on the high school level:

"It is recommended that a secondary school should grant a diploma if the examinee satisfies either (not necessarily both) of the following requirements, providing that legal requirements of local authority have been met:

1. The examinee has made a standard score of 35, or above, on each of the five tests in the battery.
2. The examinee has made an average standard score of 45, or above, on the five tests in the battery."

Many interesting personal problems arise during the counseling interviews. Rapid maturation seems to take place as a result of experiences in the Armed Forces. Even men who have completed only their Basic Training Period seem to develop a different perspective from that which they had upon leaving home. Many of the men realize for the first time the value of formal schooling. They need additional knowledge to progress in the Navy or Army rates as well as to prepare for jobs upon return to civil life. One man came in who was only 18 years old who said, "I am very embarrassed in that I did not graduate from high school. What can I do now to complete the requirements for graduation?" Upon questioning it was found that he had come directly from a Basic Training Camp to the hospital.

Another interesting case was the man who had not been able to advance in his rate. He had completed Basic Training and had gone to sea. He had been out approximately two years and was still a Seaman First Class. He said, "On shipboard I did all the duties of a Quartermaster and yet I have been unable to pass the rate test for even a Coxswain. I know all the things that are required of the rate but have failed twice to pass the rate test. I'd like to try again to make that rate." He was given the first two progress tests after having studied the rate book and failed quite badly. He was

called in for an interview and questioned on his study habits. He said that he had studied for an hour each night before taking the tests. It was thought that he might possibly be a poor reader. The rate study book was opened and he was asked to read the first assignment. His reading ability seemed quite good. He read rapidly and seemed to have no difficulty. It was decided then that he should study in a quiet room for at least an hour before he took the next test. Several other suggestions were made such as reading a paragraph and summarizing mentally what he had read. It was also suggested that he outline the material, listing only the pertinent facts and, of course, to concentrate continually on the subject at hand. He passed the remaining tests with an above average score. Many of the men returning from overseas have similar problems. They have not been in the habit of studying and concentrating in the manner necessary for retention of the material read.

One man could read and write Spanish quite well but could not speak or write English. He benefitted considerably during a short period of tutoring before his discharge from the service. The Navy has developed both reading and arithmetic texts on an elementary level that prove very beneficial for those men who have insufficient reading and arithmetical ability. They use many illustrations in the reading texts that picture the common objects seen in everyday life. They also contain drawings depicting Navy life so that the terms of the Navy are soon mastered.

A Seaman Second Class was interviewed who had completed only 6 grades of formal schooling. He was 19 years of age. He said, "I'd like only one thing. I'd like to study French." He was given a French text and records. He studied these for about two days and came in to get them again. Upon being questioned as to why he wanted to study French, he replied, "I'd like to become a bum, but I want to be an educated bum!" He was not being facetious. That was at the moment his real desire. He had had a very poor home background and had entered a correctional home at an early age. He did not "get along" with the teacher and ran away to "shift for himself." He had joined the Navy finally in order to see the world. Finally he was persuaded to take an I. Q. test. The first test showed an intelligence quotient of 128. It was thought another should be given to make certain that there had not been an error. This test showed an intelligence quotient of 135. A third was administered showing an intelligence quotient of 133. In the meantime it was found that the man had read many of the better literary works. The California Grade Placement Examination was then given to him and he received a grade placement of 13.9! Attempts were then made to establish a higher grade placement in his local school than the 6th grade on his records. This school refused to give him any higher grade placement. Entrance into one of the leading Universities was tried but here again no credit could be earned until graduation from a recognized high school curriculum could be shown. The man was discharged before any further attempts could be made. However, this man had by this time seen the value of having formal schooling and he said he would make every effort to attend college upon his discharge from the service.

All men are counseled shortly before they return to civil life. On the basis of interviews conducted during the last month approximately 50%

do not intend to return to school and desire no further training at the time they are discharged from the hospital; 12% intend to seek further training in a trade; 18% intend to return to college; and 6% plan to return to high school. Information is given in these final interviews on the "G. I." Bill—Public Law 346, Public Law 16, and Public Law 113.

It is felt that many of the veterans will decide to pursue some types of educational courses after they arrive home. Their thoughts at the time of discharge from the hospital are mainly of getting home as quickly as possible and they may, therefore, not be as receptive to counseling information as they will be after they have had a chance to get home and get "squared away."

Many of the men interviewed say they would like very much to take up some type of educational program upon their return home but do not want to take all of the usual required "frills." If they want electricity, radio, or shop, they want just that and nothing more! The service training programs have been "streamlined" and speeded up in order to accomplish the most possible training in the shortest possible time. It is this type of training the returning veterans are accustomed to taking. It will probably prove easier to adjust the programs offered to these men than try to make the adjustments in the men themselves.

In view of the fact that many of the men will want to make as rapid a transition as possible from service life to civilian life in which they can earn support for themselves and their families, closest cooperation should be maintained with local employers. Training for specific jobs will be uppermost in the minds of many men.

Many of the men returning to civil life will have mental and physical handicaps. Some of these will need training to prepare them for jobs different from those which they held before entering the service. They need and ask no sympathy, only the chance to get full speed ahead on their new careers.

RECOMMENDATIONS:

1. Close cooperation should be maintained between all agencies established to help in the adjustment of the returning veterans.
2. A comprehensive counseling program should be provided. If possible, veterans should be used as counselors. Vocational counseling is provided by the Veterans' Administration. Educational guidance should be given by the institutions concerned.
3. It is shown by the survey that over half of the men in the Navy have not graduated from high school. Due to the fact that they will be older and more mature than the usual high school pupils, it may be necessary to organize separate classes for them.
4. Men returning from the service should be counseled on an objective as well as a subjective basis. They have had responsibilities and experiences that may have developed their abilities to a greater extent than would have been possible under normal circumstances.
5. Many of the veterans will want to complete their educational and training courses as quickly as possible. It may be necessary to revise the curriculums and subject content of some of the courses offered at the present time.
6. Extensive use of audio-visual aids and special devices have proven

valuable in the training programs of the armed forces. Increased use of these materials and equipment can be made in many classes.

7. Proper publicity should be given to the opportunities offered by educational institutions. Every veteran should be informed of the benefits he can obtain in each locality.

8. Every attempt should be made to provide the men returning to civil life with the type of training they desire. As a result of their travels and new contacts their interests will be varied. New types of classes may have to be organized.



F

Division II

Physiological Factors Affecting Reading and Learning

"As an educator, to me the wisdom of the body, with its prodigious power of adjustment and defense, should be our basic instrument for constructive educational behavior."

Elizabeth Kelley, Ph.D.

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ENDOCRINE DISTURBANCES AFFECTING READING AND LEARNING

*Dr. Florence Mateer,
Director Merryheart Clinic, Columbus, Ohio*

Do glandular disturbances affect learning and its specific functioning in reading?

How many types of effect do such variations cause?

Can this factor be corrected?

Is the correction medical?

Does correction last?

What can educators do about such cases?

The answers to the above questions are not easily achieved, nor simple in their application. Any one who has been working with human material knows that practically any learning situation is a complicated one. The study of the relationship existing between glandular disturbances and learning is even more complicated.

Nor is each and every child with disturbed glandular functioning fit material for the study of such a problem. The majority of children have so many factors involved in any handicap that no one with scientific training would attempt to place the onus of causation upon one or two specific factors. For instance, if one examined a child and found 40% vision and 70% hearing, just how could one divide the responsibility poor learning between the two conditions?

The whole field of endocrine determination is one of new discoveries, new interpretations, new therapeutic approaches. Necessarily, educational and psychological findings cannot be final nor conclusive IN ADVANCE of this stage of medical diagnosis and therapy.

To me there are at least three well defined groups among the glandular variants who show consistent pictures in learning traits and in academic difficulties often far wider than direct reading alone. There are a fourth and a fifth group of which we know far less, altho their characteristics are gradually crystallizing out of the total problem of disabilities in learning.

Before differentiating these groups let us consider for a few moments the intricacy of the problem. It is not a matter of selecting all children with a certain characteristic and saying, "These are hypothyroid cases and should be given thyroid" and then having all of that group's problems disappear as the tiny white pills are administered.

Clinically I handled 4000 children before I had a group of 100 hypopituitary and 126 hypothyroid cases free enough from other factors to be considered as glandular cases, and able to be followed long enough to confirm hypotheses. In all that group there were just 7 children who showed nothing but reading defect and pituitary involvement and only 4 of the seven have been available for continued observation over a period of 5 years.

Feeble-minded relations, neuro-psychotic trends of serious nature, tubercular diatheses, suspected or proven congenital syphilis, hysteria, visual and auditory handicaps, paralyses, extreme malnutrition, birth injuries, are all complications typical of the child who does not get along well. To these we must add the cases who need purely analytic therapy or reconditioning.

Nor is the matter even that simple. At any stage in the period of therapeutic handling new problems may arise and blur badly the picture of glandular correction. Often one may be personally certain that gland feeding has been the correcting factor but one cannot prove it.

Keeping these reservations in mind, let us consider what we may accept as significant and of utilitarian value in this field.

The hypothyroid student is, probably, the easiest to detect from the study of his learning habits and schoolroom successes or failure.

Without going into technical details it is well to remember that the thyroid gland is a major determinant of body metabolism. When its efficiency is low, the body's metabolism is less. There is less oxygen absorbed and utilized to turn body nutriment into energy. From normal adults who have developed a gland disturbance comes again and again, in many varied descriptions, the report:

"I'm tired all the time."

"I just can't get anything done."

"I can't remember names, telephone numbers, things I should do."

"I can't get started in the morning."

"I don't read very much. I read the same paragraph over and over and I don't get the sense."

"I don't read books any more, just magazines."

With children the same characteristics are apparent. The hypothyroid child may be a child of very high IQ or of very low rating. Analysis of his test findings will show that, relative to his mental age, he has a very short memory span. This means, for instance, that on the Stanford L he may test eleven years yet miss the ten year memory span of 6 digits, fail the visual motor memory of the design at nine years, the sentence span at eight years and even the 5 digit span at the seven year level. It is no uncommon thing to find a hypothyroid rating no success upon memory-dependent tests within 3 or 4 years of his general level.

Now what effect does such a short memory span have upon the child's learning? It means that with any one effort the amount learned is decidedly less than that learned by the average child of the same age. Consequently, the low thyroid child will have to work longer, make more individual attention-attempts and consequently get more tired than other children, if he tries to do the required work of a normal group. He can carry this increased effort only a certain distance. Then time and energy are all utilized and he begins to slip behind.

The low thyroid child is also a poor retainer, or a good forgetter, as you choose. Often he can memorize the day's work but by the end of the week reviews find him hopelessly inadequate and finals are astoundingly low as compared with even weekly ratings.

The hypothyroid tends to be an easily depressed, easily discouraged individual. Because of his fatigue he uses ineffectual and poorly planned

approaches to his work. He often does far better with tutoring simply because he is stimulated by contact with the tutor.

So far as reading goes, the beginner usually does fairly well for a short time. But he needs much more drill, longer periods of review and shorter assignments of new material. Put into a regular group his work soon represents a building in which a first story rests upon a foundation that has many open, unsupported spaces. The second story is perilously erected upon an even less well-supported first story. Soon no further building is possible. The height or grade reached by the untreated hypothyroid before progress ceases depends almost entirely upon 4 things:

1. The severity of the hypothyroidism.
2. The amount of drill and repetition given in reading (which is largely a function of the teacher).
3. The use of phonetic drill which eases memory demands.
4. The amount of home supervision and stimulation supplied.

Needless to say not all hypothyroid poor learners manifest their problems during the first year of school. The condition may be present but be too mild to bring severe handicap at that age. The condition may not even make its appearance until after some severe infectious disease or other happening which precipitates a deficiency.

The pattern of poor retention follows the hypothyroid through the grades. They tend to be poor spellers, to have difficulty if they are taught old fashioned history with its emphasis upon dates. They are miserable among Chemistry formulas and the vocabularies of a foreign language prove Waterloo to many.

Therapy is effective more quickly in the younger children and of course the rapidity of gain is also relative to the original amount of difficulty. A typical case is that of Tom who came to me at 14, after tutoring of every possible type since seven years of age. He could not read at all. In 2 years he did every possible assignment of seven grades, completed eighth and ninth grades the next year, then went ahead with business training until 20. He is now an aviator in active service. His medication throughout was only a tenth grain of thyroid daily, but it took a skilled endocrinologist to see that need.

On the other hand a poor reader, 9 years old, rating 2 grades of reading ability but in third grade has had 2 grains of thyroid daily and is just now ready for seventh grade at her thirteenth birthday, but she reads avidly and all other work is more than adequate.

The hyperthyroid child seems to be a very infrequent part of our clinical picture. When he does appear he has none of the learning problems of the hypothyroid. He is a sick child, who has usually had no learning difficulties before the acute episode.

Another very interesting group is that which shows variation in the function of the parathyroid glands. The hypoparathyroid child is suffering from a disturbed use of calcium and phosphorus. Extreme cases show tetany in chronic form, sometimes mild, sometimes very marked.

The first effect in behavior that we notice in the hypoparathyroid is a shortened attention span. The child is over-alert, attentive to everything. More extreme cases show an innumerable variety of behavior symptoms. They are irritable, restless, destructive, negative, tempestuous, show tan-

trums, and irascibility, while restless investigation of every phase of their environment causes endless worry.

So far as school goes, they are the classic examples of the child who "will not concentrate."

Their learning rate is usually accelerated, but the subject matter learned is scanty, fragmentary, and inadequate for advancement in schoolwork.

Their reading is apt to show every possible type of error. They have poor eye movement habits and often poor enunciation.

They are frequently regarded as far brighter than they are for the tension and irritable alertness of their condition gives a semblance of superiority to their conversations.

Correction is a matter of nutritive and medical care. It is sometimes spectacularly rapid. I have seen a calcium deficient child make up as much as a grade and a half of work in 12 weeks, once corrected physically.

The problem is not simple for there are at least seven relationships of calcium and phosphorus blood ratios which predispose to these difficulties.

Far more involved and difficult to determine are some of the pituitary variants although others are easily identified and readily started on the road to correction. A pituitary deficiency syndrome is usually a part of some more complex disturbance which may have an hypothyroid basis and marked parathyroid deficiency therewith.

The hypopituitary individual is not always true to any one pattern, but there are many clinical types as well as a great number of individuals in whom the symptoms are practically all emotional and intellectual.

Some of these children are always slow in development. Others are highly superior, but tend to approach a period when exhaustion or depletion sets in and an acute stage of arrest of learning, or of excessive fatigue, or of "blocks", occurs.

The pituitary child may be very large for his age or very small, or without variation from his group's size. He may be ill-tempered, or highly docile. He may have serious tantrum episodes and convulsive attacks. He may be aggressive or recessive, dominant feminine or feminine masculine. Needless to say all of these factors have their effect upon the learning processes and in very peculiar form upon reading itself.

Clinically studied, there are three sets of traits that appear almost constantly in the psychological findings on a pituitary-deficient child. First of all there is a marked tendency to less motor skill than that of the average child of the same age. One may call this a retardation in development of the ability to make finer coordinations, to draw, to write, to button, to play a musical instrument, to sew, to paint, and to enter into new dexterities.

The second variation lies in the frequent appearance of "blocks". The individual may be going along nicely on a test situation when unexpectedly he fails. Qualitative analysis of the situation *carried out then and there* will show distinct disability (or inability) to achieve the right answer, because of verbal inadequacy or because of a sudden and distinct block in ability to express himself, which is more like an initial stammer. In some cases this block can be demonstrated as a sudden exhaustion or fatigue, from which partial recovery comes quite rapidly, especially under test situations where the demands are for so brief a period and frequently changed.

The third and most unique characteristic of the hypopituitary case is

that of inversion. This is not an inversion tendency limited to seeing words in reversed order, or writing letters backwards or upside down. It shows in the very young child as unusual difficulty in getting garments on the right way; in getting lost within his own home when going for something he knows is in a given place; in being unable to remember right and left distinctions. In many clinical cases it seems to be the only factor involved in being unable to write, to speak many words, to read.

One of my best clinical examples came from a small lad, five years old, talking very little, but intelligent, whose Mother's complaints centered around his inability to say his own name. What he said sounded like "Ehm". Analysis showed that he could say "Tom" but when he tried to say "Tommy", the syllables reversed with an unintelligible result. Another child with similar tendencies persistently identified himself as "Ejim" instead of "Jimmy".

In reading this inversion tendency accounts for many of the classroom difficulties which primary teachers meet. Some children can not keep the place in their reading text even when they have learned to read quite well. They turn towards the front of the book in going to a new page of the story, or begin reading on the right hand page when the correct turn has been made. They begin reading at the right end of the line, or, as they gradually grasp the idea of reading from the left, maintain an error of direction of attention which shows through repeatedly beginning with the second or third word of the line.

In reading, itself, words are inverted in sentence order, syllables change position, letters are wrongly placed or even properly used and used again in the wrong place in the word.

Inversion also complicates all other studies. Arithmetic is sometimes failed because of remnants of inversion tendencies. A child adds a column as 24, puts down the 2 and carries the 4, his work is entirely wrong yet he understands the process itself. The subtraction of a larger subtrahend number from the minuend is also far more persistent than with most children. Confusion of processes, inversion of multiplication and division answers, of denominative number relationships, of the processes in proportion are very common.

It is sometimes hard to judge quickly how much inversion tendency is still present. A child may be habituated to correct motor imagery in making a 7 or a 6 or a word but still have a naive reversal show itself upon undrilled material.

Closely connected with hypopituitarism is the whole question of cortical dominance. The brain lacking definite unilateral dominance is an immature brain, theoretically speaking. This theory is rather conclusively substantiated as one sees the problem resolve itself in child after child under medication with pituitary. Eye problems of many sorts, not only those of myopia and hypermetropia, tend to accompany the pituitary difficulties but usually show some resolution as medication continues. The child who is taking pituitary is apt to need frequent changes in corrective lenses, as correction progresses.

Many times a learning problem presents itself in an individual who is both hypothyroid and hypopituitary. The problem becomes just that much more involved, prognosis is that much poorer, final functioning is apt to be much lower.

One other gland group should be mentioned, those who show adrenal cortex insufficiency. These cases seem rather infrequent, probably because they are not yet readily recognized. Those I have seen have been diagnosed and corrected by very elaborate studies. These cases have periods of complete disability when reading means nothing and material learned seems to be completely lost, yet, with adequate medication, they go ahead, abilities completely regained. It is interesting to note in this relationship that many Mongolians (who are multiple gland variants) improve markedly with the addition of suprarenal to other endocrine feeding.

A word of caution is quite necessary. Endocrine therapy is not the solution of all reading problems. It is an alleviant in many cases, a most important basic factor for correction in many, the only solution for any gain in others. Occasionally there are children with every indication of endocrine disturbances whom no therapy helps at all significantly. Among all the children whom I have seen in 18 years of rather wide relationship with physicians treating children with endocrine substance I have found only one child who successfully corrected his own difficulty with nothing but pituitary therapy (no tutoring or school change in procedures.)

Three hypothyroid individuals have corrected in similar fashion. These total less than one percent of the children seen.

Glandular difficulties are probably back of many of the learning problems with which we do not so far relate them. More study will probably show characteristic traits in the diabetic and the low blood sugar cases. Gonadal affects might be speculated upon but will undoubtedly find their true recognition later. All we can say is that the field is new, the problem intricate, the outlook encouraging.

The factors of endemic areas, of the variation in disturbances from generation to generation of the same family, of the therapeutic of disabling effects of changed living locations, of related vitamin nutrition, of the aftermath of war neuroses and exhaustions are adequate problems for future research.

THE INFLUENCE OF BODY MECHANICS ON THE LEARNING PROCESS

Charles L. Lowman, M. D.
Orthopedic Hospital, Los Angeles, Calif.

The influence of a certain physical state known as faulty posture or bad body mechanics on the mental processes should be considered from:

1. The skeletal or structural angle.

2. The organic aspect.
3. The neurological and neuromuscular angle.
4. The psychological effects.

Good alignment of the various body segments and the extremities, plus good muscle tone and balance of opposing muscles, make for good health, skill and efficiency of effort. Circulatory interchange, both in body and brain, is at its optimum, and the products of fatigue from work are oxidized and eliminated effectually. In other words, a sound physiological status exists. The converse of the above situation is equally true. Bad body mechanics, poor muscle tone, faulty neuromuscular function and resultant insufficiency produce physiological inadequacy.

Faulty body mechanics (poor posture) not only involves the skeletal structures through malposition of joints, producing ligamentous and muscular strain with consequent neurological effects, but also causes faulty position of organs, with resultant circulatory and lymphatic stasis.

Neuromuscular fatigue develops more quickly when poor posture prevails. Due to faulty organic function the products of fatigue cannot be handled efficiently, i. e., cannot be oxidized rapidly and eliminated. A vicious circle becomes established when strength to oppose and correct faulty posture decreases, since muscles that are clogged with toxic fatigue products cannot function well.

The muscles of the extremities and the diaphragm are the only two pumps that return the venous blood, with its load of metabolic detritus, to the heart and lungs for purification. When muscles contract they shorten in length and broaden in width. The bellies of the contracting muscles press against each other inside the non-elastic fascial sheaths and this pressure compresses the veins and lymphatic vessels, squeezing their liquid contents upward to the body.

The diaphragm is a different sort of pump. It is hung in a pump frame made by the spinal column and the rib cage. On its downward thrust it not only brings fresh air into the lungs but also makes a downward pressure on the abdominal viscera and their contents. This increase of intra-abdominal pressure, resisted by the muscular wall of the abdomen, serves to compress the big veins and the lymphatic tubes. It forces their contents upward into the thoracic cavity to the heart and thence to the lungs where the gaseous interchange takes place, the blood is re-oxygenated and the impurities are driven out at each expiration. Approximately 25% of the waste products of the body are eliminated by this route. Consequently, efficiency in these pumps is of great physiological importance.

Now, consider the child with a relaxed, fatigue posture—forward head, round or round hollow back, round shoulders and varying degrees of flat chest and relaxed abdominal wall. As the cervical and upper dorsal spine sags forward, the large suspensory ligament called the cervical fascia is slackened and all the organs supported by it are lowered. The backward bowing of the vertebral column in the thoracic area causes the ribs to angle downward towards the center of the curve like the spokes of a wheel, decreasing the depth of the thorax and lowering the attachments of the diaphragm. The diaphragmatic stroke thus is narrowed between inspiration and expiration so that less air is drawn into the lungs with each stroke. Because of the relaxation of the abdominal wall from the lowering of the rib cage,

the resistance it opposes to the downward stroke of the diaphragm decreases. Hence, the degree of intra-abdominal pressure is lowered. This loss of compression in the cylinders decreases the efficiency of the pump. Elimination is interfered with and, compensatorily, the heart must pump faster and the breathing rate step up.

The earlier and greater fatigue in the muscular system, due to the extra work required in supporting body segments which sag out of line, further embarrasses the circulatory and eliminatory apparatus. Nervous energy that should be utilized for other purposes must be expended to keep these tiring muscles on the job. This amounts to a leakage of nerve force from the main reservoir and further complicates the vicious circle.

A continuous state of semi or chronic fatigue certainly does not enhance the learning process in any student. We all know that when a person becomes toxic because of sluggish liver function, constipation, congestive or allergic state, he becomes irritable and restless and is unlikely to be in good emotional condition. This is especially likely to be the case in the lithe type child whose nervous and emotional machinery is in a state of unstable equilibrium which is easily upset.

On the other hand, in the stout type child with poor posture, one may expect slow or even sluggish reactions, partly from his tendency to a slow oxidizing rate from glandular malfunction, and partly from toxic build up from fatigue. Often the lethargy of stout type students is not understood by teachers, and such pupils are classed as lazy, stupid, or both.

If physiological disturbances are appreciated as having much to do with the pupil's mental processes, a more sympathetic approach will exist. Referral of such pupils to the medical examiner or family physician may help greatly in bringing them into line.

Although the high speed, lithe type child seems likely to be of the scholarly or mental type, you must not be misled. He will shoot up his hand first, anxious to get credit for answering your questions, but frequently his actual knowledge of the subject will lack depth. His type of person is easily distracted as his attention span is short. Because of his body build he is prone to postural faults, has poor physical endurance and is easily fatigued. Consequently he should have shorter periods of application and a greater amount of rest and relaxation than other children. A high degree of interest may keep him too long at a given project; intense reactions and emotional responses plus postural fatigue may carry him over into erratic behavior and many ups and downs in his school work.

Postural faults cannot be looked at as separate entities because both organic and neural factors play important parts in the picture. Likewise, postural and skeletal conditions, through their effect on the organic and neuro-muscular systems definitely may affect the mental status of the student and have profound influence on the learning process.

In summary, what can the class room teacher do to ameliorate and improve the status of her pupils?

1. Watch for signs of fatigue, poor co-ordination, both physical and mental, shortening of attention span, lessening of concentration, muscular twitching or jerking. Also note restlessness and frequent shifting of body weight.

2. Observe the child's eyes. Are they reddened? Does the child blink?

Does he hold his book too close or too far? Does he rub his eyes? Is his reading jumpy and erratic? Does he mispronounce simple words? Does he skip words? Is he easily confused as to the meaning of what he reads?

3. Note evidence of poor breathing. Does the child have sighing respiration, especially in the afternoon? Does he yawn? Does he appear sleepy and unresponsive? Is he easily distracted and prone to "wool gathering"?

4. Keep a record of your observations, checking a few pupils every day, row by row, during study and recitation. After a week or two, having checked an entire class, recheck those that are not doing well or who are suspected of having some fault, noting habitual faulty posture in sitting, standing and walking to determine if the fault becomes worse as the day progresses.

Faulty posture will be found to be the most easily noted index to fatigue and poor physiological function. Poor posture in itself may not be a cause of faults in the learning process but may be significant of other influencing factors. It has been noted that the students with the poorest posture are those who have or have had frequent physiological and organic upsets. They are prone to infectious episodes, disturbances in the respiratory and intestinal tracts, and often have unstable neuromuscular and emotional balance.

This correlation may serve as a guide in directing the teacher's attention to postural faults and serve as a help by focusing attention on the pupil's needs.

THE WISDOM OF THE BODY

*Dr. Elizabeth Kelley
Professor of Physical Education, Pomona College
and Claremont Graduate School*

Our discussions of the past week have brought forcibly to mind the close relationship between the health status of the child and his ability to read and to learn.

All of our thinking has pointed to the wisdom of the body in preserving the complex adjustments within the organism so that we may conduct ourselves as human beings.

We have seen through Dr. Mateer's presentation the effect of endocrine disturbances on the learning process. Dr. Charles Lowman and Dr. Webster have discussed the influence of posture and body mechanics on the efficient function of the organism. Poor body mechanics and faulty posture are often indices of fatigue, poor coordination—both physical and mental, shortening of interest span and a lessening of ability to concentrate.

Miss Moss has indicated the relationship between success in school and the general health status of the child: the relationship between malnutrition, regularity of meals, and proper diet having been shown to favorably influence the learning process. Other necessary factors to be considered in the building of a normal healthy child are: plenty of sleep and rest; an attractive, clean environment free from unnecessary noise and excitement; plenty of fresh air and sunlight, bodily cleanliness and dental care. It is also necessary to remove growth handicaps, correct defects as they occur, and to give the child the assurance of affection and security of a happy home and school environment if we are to expect his maximum capacity in the learning process to be realized.

Given a child with a good hereditary background and desirable health habits, enjoying the security of a happy home and a school situation that is stimulative and enjoyable we can expect to find the greatest degree of success in reading and learning that one could expect for that individual child.

With Dr. Scarbrough we have discussed emotional factors that effect reading. Here, again emotional problems arising in children are related first to their own inherited potentialities influenced by environmental or domestic situations. Children, generally speaking, take their pattern of behaviour from adults. Prescott, in *Emotions and the Educative Process*, has presented the effect of the teacher's emotional state on that of the children. Dr. Margaret Mead, in one of her talks, urged "steadiness" in the teacher. Thus, the first step in seeking to prevent emotional disorders in children lies in the introspective process of setting our own "emotional house" in order, so that we may approach the problem with realism and a steady reassuring attitude toward the children.

The U. S. Office of Education in its School Children and the War Series, Leaflet No. 6—entitled "Meeting Children's Emotional Disorders at School," gives the following specific preventive measures:

1. Maintain good physical health. Now, more than ever, the child must have adequate nutritious food. Fatigue must be guarded against.
2. Maintain normal routines insofar as possible.
3. Let the child have a contributing role in the war effort.
4. Aid the child to develop at least one good group relationship, and to learn the meaning of *esprit de corps*.
5. Let the example of adults support the children. It is in the interest of the group that members show as little fear as possible, not only in emergencies but at all times.
6. Do not encourage careless attitudes toward danger, but let the child become aware of and respect danger, so that precautions may be taken.
7. Plan for an occasional release of tension in an activity such as a noisy party, or a strenuous game.
8. Try not to let the child "stick his head in the sand," i. e., refuse to recognize the war situation. This results only in an inability to establish tolerance to the danger situations until it is too late to readjust quickly, and thus it results in inability to avoid an acute panic reaction.

Again we see the primary significance attributed to good physical health, adequate nutritious food and the prevention of fatigue if the learning process is to go on unhandicapped.

Walter B. Cannon of Harvard, in 1932 published a most illuminating book entitled "The Wisdom of the Body." Earlier—in 1923 Professor E. H. Starling of University College in London expressed eloquently his admiration for the marvelous and beautiful adjustments in the human organism. His oration, he entitled "The Wisdom of the Body." Only by understanding the wisdom of the body, he declared, shall we attain that "mastery of disease and pain which will enable us to relieve the burden of mankind."

The approach of both of these eminent physiologists is that of the clinician, the biologist and physician. As an educator, to me the wisdom of the body, with its prodigious power of adjustment and defense, should be our basic instrument for constructive educational endeavor. This knowledge should be used constructively and not left for the physiologist and physician to use after the individual is ill for his "mastery of disease and pain."

By a better knowledge of physiology and physiological-chemistry the attempt to understand the needs of the child is more successful. By this knowledge the guidance of the learning process so that constant growth, development and adjustment according to standards will be more often realized than it is now.

To quote from Cannon: 'Our bodies are made of extraordinarily unstable material. When we consider this extreme instability of our bodily structure, consider that it is not permanent but is being continuously broken down by the wear and tear of activity, and is being built up again as continuously by a process of repair we have a picture of the complexity of the problem.'

The French physiologist, Charles Richet, in 1900 emphasized the fact that the living being is stable. It must be so in order not to be destroyed by the colossal forces which surround it. By a seeming contradiction the body maintains its stability only if it is excitable and capable of modifying itself according to external stimuli and adjusting its response to the stimulation. "In a sense it is stable because it is modifiable—the slight instability is the necessary condition for the true stability of the organism."

Cannon terms the constant conditions which are maintained in the body equilibria as homeostasis—a term meaning a condition which may vary but which is relatively constant.

From the point of view of the teacher this concept of the coordinated physiological processes which maintain the homeostasis of the body is the basis for our realization of the oneness of the child. It is the physiological reason for the rejection of the idea of a separate concern for the mind of the child as opposed to any attention being given to the body.

The homeostatic regulation by which the balance in body function is assured is achieved through the fluid matrix of the body and through the functioning of the two great divisions of the nervous system. The blood and lymph which form the fluid matrix of the body have only one object,

¹Cannon, Walter B. *The Wisdom of the Body*, p. 21.

that of preserving constant the conditions of life in the internal environments of the body.

There are materials in the bio-chemical composition of the fluid matrix which provide the source of energy displayed in muscular movement, glandular secretions and in other activities. There are also materials for growth and repair—such materials as glucose, protein and fat. There is also oxygen, there is water and the inorganic salts. The internal secretions which come from the endocrine glands have a general and continuous effect on the composition of the fluid matrix. Each of the items exist in a relatively uniform state. There are oscillations, but within narrow limits. The variations do not ordinarily reach dangerous extremes which threaten the existence of the organism. Before such extremes are reached, agencies are automatically called into service which act to bring back toward the mean position the state of equilibria which had been disturbed.

The nervous system and the heat regulating mechanism help these self-regulatory agencies which operate to preserve the constancy of body function. Every single cell in the body of the individual, whether it be brain cell, nervous tissue or muscle cell is surrounded by the same fluid content and will react accordingly. A single unified organism, the function of which may be either efficient or give evidence of malfunction. The health habits of the child, whether they be his practices of sleep and rest, nutrition, elimination of waste products or any other, affect the stability of the regulatory agencies of the body.

This unscientific presentation of a very complex physiological concept is the reason why the facts concerning the relationship of such factors as health, endocrine disturbances, posture or body mechanics and emotions to reading and the learning process are pertinent.

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Division III

Social Factors Affecting Reading and Learning

"We read not only with our eyes, but also with our minds and our emotions. Reading is part of the individual's total development."

Ruth Strang, Ph.D.

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SOCIAL UNADJUSTMENT AND LEARNING DIFFICULTIES

*Pearl E. Clark, Ph. D.
Dean of Women, Chaffey College, Ontario, California*

Many teachers could take a page from the program book of the social worker—the page showing the positive correlation between the child's social adjustment and his personality problems. Too frequently we fail to realize the connection between social unadjustment and failure to learn. Personality conflicts must be included with the low I. Q.'s, malnutrition, physical defects, poor teaching, and improper reading habits when we discuss the factors contributing to inefficient learning.

As the personality of the child develops through his relation with people, with things, and with ideas, conflict with an emotional concomitant may arise. This conflict may touch the child because he is a member of one or more groups involved in aggressive opposition to other groups; there may be conflict between the child and other persons; or emotional conflict may arise in the child's own personality.

The Child as a Member of Conflicting Groups. A child who is part of religious, racial, industrial, social, neighborhood, community, or intra-family quarrels, may find no motive for learning school subjects. Ruth serves as an example. When the families of her father's two brothers became involved in a dispute of such violence that neither would speak to the others but both groups were frequent visitors in her home, her school work suffered. "It is hard to keep my mind on my work," she complained "for everytime a relative on one side of the block comes in, I find myself trembling for fear one of the other uncle's family will appear. I can't enjoy school parties when cousins from both families are present. Even at school, cousins from each side talk to me about the others."

In one school where the "haves" outnumbered the "havenots" and were as brutally snobbish as twelve year olds can be, Jane found no interest in studying. Moved to a school where class distinctions were less evident, Jane surprised everyone by doing acceptable work. "It's fun to work in this school," was her comment, "when you do not have the West Side Crowd calling you names and acting as though you were too dumb to live."

While the people of the United States are professed admirers of education and have an almost religious faith in its efficacy, schools and their personnel are too often the target of abuse. When the child hears contemptuous statements about teachers and school at home or hears their "extravagant" costs berated by his parents, he is sometimes prejudiced against learning either the subject matter and behavior patterns taught by the school. Tom is a good illustration of this type of influence. Of good mentality and full of energy, he displayed an ambivalence toward teachers and school—he wanted to work yet hated to demean himself by listening to teachers for

they "aren't like other people and my dad says nobody does wrong when he lies to them."

Conflict Between the Child and Other Individuals. While the life of every person is full of conflicts with others, some children experience such bitter oppositions that the resulting frustrations interfere with learning. Members of the child's family, his friends, or even a teacher may be the cause. Perhaps the parent projects his (or her) occupational choice upon the child who perhaps would be a farmer but must plan to be a lawyer in order to carry out his father's unfulfilled ambition.

One girl found her school work interfered with when her mother began delivering tirades against the father whom the girl admired and accused her daughter of being too much like him to amount to anything. "I find myself all tense whenever I am at home and can't keep my mind on my work. I am so afraid a quarrel will begin, with mother and I not speaking to each other then for a few days."

The boy who was needlessly but seriously embarrassed by a teacher found the rest of his school year less productive of good work. One girl became less able to learn crafts after being informed by the teacher that "anyone with as big hands as yours should be able to do anything from typing to piano playing." "I hated to use my hands after that for I just knew every child in the room must be staring at my monstrous hands."

Every one is motivated by a desire for acceptable status and such conflicts may result from the feared loss of status. This was true in the case of the small boy who argued with his mother over her stealing even though it meant the source of his food in depression days. He acknowledged a haunting dread lest the other children in his class might learn that he was the child of a thief. School grades were not too high during this period of his life.

Mental and Emotional Conflict Within the Child's Own Personality. While the above difficulties have strong emotional accompaniments, the child frequently becomes upset over a conflict of ideas resulting from conflicting desires or from meeting opposing culture patterns. Because she cheated on a spelling test, one such child felt that, even though uncaught, she had committed an unpardonable sin which would condemn her to eternal punishment. Her life became so full of this fear that it was extremely difficult for her to pay attention to her lessons.

The child who worries over his being an adopted child, over material poverty, insanity in the family, loss of reputation, sex mores, and kindred problems may experience failure in his class work. Parents and teachers frequently find it difficult to unearth such fears and usually credit the child's failure to lack of ambition, poor health, or plain "cussedness."

In addition to an urge for status, the individual is motivated by a desire for action—not mere physical activity but activity which has a meaningful purpose or is stimulating mentally. Should this urge not be satisfied through the subject matter of the classroom, failure may result. The child who sees no use for the material presented and, therefore, refuses to put himself in a position to learn it is a commonplace in every classroom. One of the teacher's difficult tasks is to "sell" his subject to the pupil who sees no value in it. Within the past month, the writer has seen a college sophomore begin the study of psychology with enthusiasm after reading a book about the use of

psychology in nursing. The formerly valueless subject took on meaning when she saw that everything discussed in class was useful to the practicing nurse. "It was an interesting but useless course to me until now," she explained, "but now it has a vocational value to me that makes me want to do my best."

In some instances, the child's urge for activity is blocked when he is not allowed by parents or associates to express himself through satisfactory associations with others. This latter situation may be termed "isolation in association," especially when others withdraw socially from the child because he has a negative value in their eyes. One such isolated girl in Junior High School revealed that school and studying became absolutely useless to her when her friends formed a club and left her out.

Conclusion. Causation in human relationship and personality development is, to be sure, a very complex factor. A contributing element in one person's behavior may appear with the opposite concomitants in the case of another person. For this reason, generalizations must be avoided. The isolated child, the status seeking child, or the child involved in emotional conflicts may compensate by trying to excel in his studies. He may even live in a world of books and lessons and historical characters in place of the world of reality. He, too, may be a problem for the counselor, if not for the teacher who is interested in pupils who learn. In spite of this fact, we cannot afford to forget that the child who does not learn the lessons we assign him may be in a fairly temporary or a somewhat permanent stage of unadjustment. Only with a change in the situation, over which the school person has a rule no control, or with a change in the pupil's attitude toward the situation may an improvement in learning be brought about. If, as teachers, we are too unskilled in psychotherapy to be of much help to the child, let us resolve at least to look for these casual factors and then call in the expert to help with the adjusting process.

PERSONALITY DEVELOPMENT AND READING PROBLEMS

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Reading and personality are related, of course. Our attitudes, thoughts, and conducts are influenced by what we read, sometimes profoundly, sometimes superficially. Our prejudices and experiences in turn color our comprehension of passages read. Reading, like the functioning of intelligence, is the resultant of our personality as a whole. We read, not only

with our eyes, but also with our minds and our emotions. Reading is part of the individual's total development.

This generalization, however, does not answer the question: How do personality factors affect reading proficiency? Despite the considerable amount of study of this problem, we do not yet have the answer.

We do know that attempts have failed to show that poor readers may be distinguished from good readers by any single personality trait.

Personality organization, however, as measured by the Rorschach test, does seem, to some extent, to differentiate poor readers from good readers. The retarded readers in grades three through six were found to be less stable and well adjusted than good readers, less efficient in the use of their potential mental capacity, and more concerned with small detail. They seem, in general, less efficient in dealing with the complex challenge that reading offers.

Our hypothesis is that different kinds and degrees of reading proficiency arise out of different personality structure and life experiences. Lack of parents' affection, parental preference for a younger brother or sister, repressed curiosity, a strong sense of guilt, sex conflicts, and repeated failure may increase emotional instability and inner conflict. Parents and teachers' anxiety over a child's not learning to read may also make the child anxious and thus disperse his effort to learn. Resistance to learning to read may be the child's way of expressing hostility to some person in his environment. These and many other factors may enter into individual reading problems in different combinations and with different degrees of intensity.

In some instances a child achieves proficiency in reading despite unfavorable conditions because of some dominant motivation. He may intensely want to read a part in a play or get into college. He may realize the need to read better in order to get a job. As one seventeen-year-old boy who was practically a non-reader said, "Every time I go for a job I have to do some reading and writing."

The impetus to put forth effort may come from interest in getting the information one needs from books. This was true of a boy thirteen and a half years old with Binet IQ's of 82 and 90, who stood at the bottom of his class. On the New Stanford Reading Test he scored about third-grade level. His only interest seemed to be in farming. For a year he had resisted help in remedial reading. When, however, he discontinued work on the childish and monotonous exercises the teacher was using and shifted from the idea of "reading" to "reading to find something in which he was interested," he made marked improvement and became able to keep up with his class work. Similarly, a girl who was very poor in reading went ahead rapidly when she became interested in finding books for another pupil who was a poorer reader than she. The spark of interest in reading was kindled in another student by encouraging him to read and collect clippings about famous skaters and about ice skating as a sport. These are examples of ways in which a genuine interest may override resistance to reading created by unfavorable conditions.

Reading may be a cause instead of the result of emotional difficulties. If a child does not learn to read when the other children in his class do, he finds himself unable to keep up with them in the fourth and fifth grades. Not being willing to admit his inability, he may try to cover it up.

Frequently he may develop an inferiority feeling that may cause him to withdraw from the other pupils and the class activities. He may build up the attitude of "I can't read." As one boy expressed it, "I am afraid to read because I think I can't, and when I am called on, I begin to make noises." This boy was helped by being given some simple, interesting stories which he could read successfully. This defeatist attitude is intensified by teachers and parents who do not "accentuate the positive, eliminate the negative." Sometimes he manages to keep busy at other things. Success in athletics or social activities, however, does not really compensate for lack of reading achievement in schools and homes where reading is considered basic to success in life. Sometimes he makes the class laugh by making up silly sentences, which he substitutes for the words in the book that he cannot read; sometimes he rebels against school in general and becomes a "behavior problem." Thus he may grow to hate not only the school and the teacher, but society as well.

With preschool children, Lois Jacks and Marjorie Page at the University of Iowa demonstrated that the acquisition of certain skills had a striking effect on the children's personality trends. On the high school level reading may be considered a skill comparable to those taught to the preschool children. If reading is skillfully taught, with success achieved at each stage, and then used in group situations in which reading has social values, a favorable change in behavior may be expected. We need experiments that will show whether changes in personality occur as the result of improvement in reading.

It is difficult, however, to relate changes in personality to improvement in reading or to prove that reading is causing behavior problems. Some pupils improve in behavior after they have learned to read more efficiently. Their success in reading seems to improve their self-confidence in general. Others show small changes in behavior; still others seem to be as "bad" as ever after they have learned to read better. This variation is not surprising, for a person's behavior arises from complex sources. Inability to read may be at the heart of a pervasive, persistent personality difficulty; or it may be relatively unimportant as compared with the individual's other anxieties and conflicts.

The relation between personality development and reading problems is best revealed in comprehensive case studies. We need more reading cases written by trained counselors and psychiatrists who also understand reading problems. From such cases we should see how changes in personality and conditions in home and school may result in new attitudes and effort in reading and also how continued failure in reading may alter personality trends. A few examples will illustrate our hypothesis that reading development is unique; there is no one type of reading development or personality development.

Case I: Pauline

This case illustrates a combination of emotional factors and environmental conditions that resulted in serious maladjustment. Reading was made the scapegoat on which the parents projected more serious emotional difficulties. Thus reading became a factor in the girl's total personality

development only as its importance was exaggerated by parents and teachers.
Personal Appearance and Manner

Pauline is tall for her age, has pretty hair, a good complexion and coloring. She has good manners, except when the sore spot of her academic work is touched; then she may exhibit rudeness to her mother and teachers. She apparently does not make friends with children of her own chronological age and says they think she is dumb and do not play with her. She finds security in companionship with little children. Her experience in a dancing class intensified her feeling of being a failure socially.

Home Background

Pauline, a fifteen-year-old girl, has parents who were intelligent and successful and desire their child to be brilliant and popular. She senses their disappointment in her and is anxious and insecure. Her mother has provided various special educational and recreational opportunities for her—private tutor, clinical study of her reading problem, dancing lessons—but without the desired results.

Results of Tests

The Revised Stanford-Binet Scale administered at two different times by trained examiners indicated an IQ of around 70. The total score was higher than it would have been if she had not had a vocabulary advantage due to her home environment. She passed the vocabulary test and abstract words test at the twelve-year level, but failed the other tests on that level.

Both Binet and Rorschach tests indicated limited intelligence for high school work.

On the Gray's Oral Reading Paragraphs she read painfully slowly, repeated words and phrases, and made a score of grade four. Apparently she had been drilled in the phonic approach to words and her soundings of words and blending were excellent, enabling her to sound out correctly words as difficult as illustrious, congratulate, philosopher. All her attention, however, was focused on the pronunciation of the words; the passage as a whole had little meaning for her. However, when her attention was called to the fact that she was reading words, not ideas, she read the pages following with better comprehension. During the vocabulary test, she responded very well to the examiner whose method seemed to stimulate and encourage her. For example, the following is illustrative of his approach: (Pauline has come to the word congratulate): "Con—con—I can't get that either."

Examiner: "I bet you can."

Pauline: "Conku—congratulate."

Examiner: "I told you you were going to get it."

Pauline: "I surprise people sometimes."

Examiner: "You didn't surprise me."

Attitude

As she grew older, overt hostility to her mother has increased. To all appearances her mother is very patient and considerate, but Pauline seems to sense an underlying disappointment on her mother's part and alternates between despair that she cannot come up to expectations and resentment that she should be expected to do so.

School Environment

When Pauline completed the fourth grade at the age of fourteen, she

was so physically mature that she was sent to junior high school and placed in the lowest section of the seventh grade. There she found other pupils of similar intellectual limitations, but socially much below her in background. She was disliked by the boys, tolerated by the girls, and characterized by the teacher as "a queer girl and difficult to understand." She took no part in extracurricular activities.

At her request, she was transferred to another section of the seventh grade where she had a teacher whom she liked and who gave her a great deal of personal attention. She would have liked to continue work with this teacher for another year but the teacher felt it was not fair to the rest of the class to have Pauline usurp so much of her time. So Pauline was placed in a section doing sixth- and seventh-grade work, and proceeding very slowly. Even at this pace, Pauline complained that the teacher "gives the work too fast." The school does not expect her to do seventh-grade work and wants to give her as satisfying and constructive school experience as possible.

Recommendations

The reading clinic, after four periods of interviewing and testing, made the following recommendations:

1. That the present pressure to achieve academic success be reduced; that she get as much knowledge from the class periods as possible and sound out some of the difficult words in her school texts, just to prove to herself that she can puzzle out difficult words. She should not be required to read in the seventh-grade books at present. She may get some information that she may share in her present seventh-grade class from books written on a second- and third-grade level of difficulty such as the social studies series and science stories of the Scott, Foresman curriculum series.

2. That all her teachers try to give her as many experiences of success in the group as possible. For example, a teacher might tell Pauline privately that she would ask a certain question the next day as a casual part of the class discussion. She would show her where she could find a satisfactory answer and give her as much assistance as possible beforehand in formulating the answer. The value of this would be to change the pupils' attitude toward her and increase her self-confidence. One teacher, as part of a class project, assigned to Pauline the making of a poster which the rest of the class admired.

3. That she be engaged to amuse one or more small children several hours or more a week and reading to them interesting first- and second-grade stories that she will select from the children's library.

4. That there be concerted action among teachers and parents to accept Pauline as she now is and to emphasize her strong points—her enjoyment of music, her good health, her interest in little children, her attractive personal appearance. There seems to be so much emotional involvement in the whole situation that the most important thing at present seems to be to relieve her of some of her underlying anxiety and tension.

Follow-up

It seemed impossible for the parents and teachers to carry out persistently and consistently the policy outlined. Pauline was transferred to several

other schools and four years after this initial diagnosis was made, became a patient in a psychiatric clinic.

Case II: Dick

Dick was a mature, psychologically sophisticated college student whose rate of comprehension was so slow that he was unable to keep up with his assignments. His introspective analysis reported in detail here indicates that the reading difficulty may be the result of some unexplained conflict or in line with a constitutional, physiological condition.

"I wonder whether I have some motivation against comprehending at a rapid rate. When my interest is good and reading is proceeding at a fair rate, I am aware of a feeling of resistance to continuing at this rate. Perhaps I need to examine the possibility of some unrecognized resistance against rapid reading and the possibility of psychoanalytic aid in discovering and removing such resistance.

"Can the resistance be explained by the common tendency that old established habits—in this case faulty reading habits—tend to exert?

"Another possibility is that I resort to slow and inefficient reading in order to excuse failures that I could not avoid even though I read faster. It is more comforting to my self-esteem to attribute academic failure to reading difficulty than to admit having a lack of general scholastic ability.

"Or I may read in low gear because it's the easier road to travel. In this way I avoid the hard work of making a greater effort. It seems as though I must be getting more satisfaction from dawdling over a task for a long time than in working hard and getting it done promptly.

"I think the most accurate explanation is that my supply of energy is so low that a slow rate of work is constitutionally more congenial. My style of life, my preferred pattern of working seems to be one of low tension, slow work, and low output. My objection seems to be to thinking that requires a sustained high rate of speed rather than to thinking that requires a high order of capacity and effort."

This introspective report suggests the complexity of the physiological and psychological conditions that may give rise to a certain kind of development in reading.

Case III: Bert

Personal Appearance and Manner

Bert had served three years as an Army officer and at the time of referral had been given a medical discharge because of a physical disability that prevented his continuing in active service. He appeared nervous and unsure of himself.

Educational and Home Background

At thirty years of age he was planning, within a month's time, to begin college. He feels that he will be greatly handicapped by his inability to read and by his not having been to any but Army schools for ten years. He feels he may have difficulty in passing his courses. In the Army he had acquired a determination to get more education. He said, "When I was in the Army, I saw from the beginning how much weight they gave to education. The amount you had had meant a lot in being promoted and

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¹Ruth
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²Ibid., p

³Ruth
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going to school. All my friends had been to college. I guess I got a complex about it."

Counselor: "You decided that you must go to college?"

Bert: "Yes, that's it. Nobody is going to stop me from going to college! I have a chance to go at least for a while since the government will pay part of my expenses so I'm going to go."

His family, however, was not in sympathy with his ambition. They thought he should go to work and earn "big money" while employment opportunities were good.

Results of Tests

While taking the Nelson Denny Reading Test, Bert was fidgety and showed obvious difficulty in concentration. His vocabulary score and his paragraph reading were both at the 23 percentile. On a reading test based on a popular newspaper type of article,¹ he read at a slow rate (180 words per minute) but his summary written from memory was good. On a much more difficult scientific article² his reading rate was slower, as it should be, but the summary was much less adequate than that written for the first article. On three oral reading passages³ he missed the main idea completely in the first paragraph, first said he got little out of the second paragraph but gave a fairly adequate interpretation of it when urged, and did not attempt to express his comprehension of the third and most difficult paragraph, although he read it well orally, making only one mistake which he corrected himself. His performance on both the silent and the oral reading tests indicated that he felt very unsure of himself and his ability to read with adequate comprehension.

Practice and Instruction

In the five one-hour periods during which he received help in reading before he went away to college, part of each period was spent in informal conversation. These conversations revealed the anxiety and insecurity that have already been mentioned and also served to strengthen the friendly relation with the worker. He told her about his plans, some of his experiences in childhood and more recently, the opposition of his family, and his own conflict in refusing to accept offers of good jobs in order to go to college. The worker helped him to think more clearly and objectively about his plans and to relate the reading instruction to them.

Together they worked on ways of improving his vocabulary: The worker suggested some easy books in the fields in which he was interested so that he would get enjoyment and information and at the same time be increasing his vocabulary. They studied the structure of paragraphs and how the main idea could be recognized more readily when he saw how the paragraph was built. The worker provided material which he could read successfully so that he would have these experiences of successful reading to look back on after he had gone to college. He stated, before reading the

¹Ruth Strang, *Exploration in Reading Patterns*, pp. 137, 140-141. Chicago: University of Chicago, 1942.

²Ibid., pp. 138, 142-143.

³Ruth Strang, Margaret Martin, Margaret McKim, and Mary Alice Mitchell, *Examiner's Diagnostic Reading Record*, pp. 10-15. New York: Teachers College, Columbia University, 1938.

different kinds of material, his purpose in reading that kind of material. Thus he obtained practice in adapting his reading method to the purpose.

They discussed how to increase concentration and tried out devices the worker suggested, such as thinking, before he read the article, what he would say if he were the author. Bert selected for further application the methods that seemed best for him. Individual flash cards were used to help him to learn to read in phrases.

In the last interview, the worker asked how Bert would like to use the hour. He said, "A plan, I guess, for helping me after I get to college." So they reviewed the methods he had used successfully in previous periods and principles underlying them. They worked out a plan for budgeting a week's time, making use of the library and counseling services available in the college, and aids for concentration.

Follow-up

About a month and a half after he had entered college, he was met on the campus. He was in good spirits, and apparently well pleased with his decision to continue his education. He said that the work in reading had helped him a great deal to get off to a good start and he was pleased with his progress.

Here is a case illustrating a reciprocal relation between reading and personality. His conflicts over vocational decisions, the restlessness resulting from three years of Army life, the difficulty of adjusting to civilian ways of life and especially to college requirements made effective reading difficult. His poor reading achievement, in turn, increased his feeling of inferiority and inadequacy. In this case help in reading seemed to be an important factor in the desirable changes that took place in his attitude and behavior.

Three main patterns of personality involving reading difficulty are found in reading cases. Perhaps the most frequently recurring pattern is that in which failure to learn to read seems to lead to withdrawing or aggressive or apathetic behavior. In the second pattern the reading difficulty seems to arise from a complex of emotional facts. A common syndrome consists of an overemphasis on reading in the home and the making of academic success a condition for securing the parents' affection, resulting in an inner conflict that suppresses effort and spontaneity and is centered on reading. The third pattern involves conditions at home and in school that give rise both to emotional and reading difficulties. Within each of these main patterns, there are an infinite number of variations, unique for each individual.

THE UNDERLYING PHILOSOPHY OF A BI-LINGUAL PROGRAM

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Today, we live in a country which has the highest standard of living of any country in the world. The American people enjoy material and spiritual security more than does any other people. The United States has a firm democratic foundation which permeates through the entire social organization of this nation. No other country in the world has achieved the degree of political and economic democracy such as that found in the United States. The American people have developed an industrial organization which has maintained the high standard of living which we now enjoy. Millions of newcomers have come to the United States to make their homes and they have enriched the American culture with the heritage brought with them. The American nation would have not achieved such greatness had it not been for the orderly and responsible government which this nation has maintained.

In the process of finding solutions to the various problems which have arisen as the result of the enormous growth and expansion of this nation, some problems require more time and attention than do others. The American people very aptly have learned to solve the physical problems in order to permit the people to enjoy full mastery of the natural resources of the nation. The effects of the past today present the American people with new problems which involve human beings. With the coming of millions of Europeans and Latin Americans to the United States to help develop the industrial wealth of this rich land, new social problems were created which today are felt and obviously need solution.

The purpose of this discussion is to study the problem of the American minority groups with the hope of arriving at set of principles which can be useful in operating a bi-lingual or inter-cultural program.

As we look in retrospect the foreign waves of immigrants have not been objected to very seriously as long as they would be helpful in building the nation, which in its early history was short of manpower. The American people were so busy establishing industries, building railroads, cultivating fields, and digging mines that the presence of millions of "strange" foreigners did not become a matter of grave concern. Now that the physical development of the nation has reached a high degree of maturity the American people are not anxious to attract more newcomers, particularly if they belong to strange and different cultures.

Most of the European minority groups which came to the United States several generations ago have become assimilated and eventually absorbed into the American culture. The Latin Americans and the Orientals who have been in the United States for a comparatively short period of time, have found it much harder to become Americanized and adjusted to the life of this country. Unlike the European immigrants the two minority groups arrived on the American scene as cheap laborers repre-

senting the lower crust of the societies from which they came. Their economic impoverishment, their ignorance of the American ways and the English language, these and other problems within those groups made their adjustment to this society a tough and complicated problem.

As was the case and true about the earlier immigrant groups which appeared in the American scene, the new generations which have arisen from the Latin American and Orientals are demanding educational and social opportunities which other young Americans enjoy and cherish. Though many of the parents, in fact the majority, have had little opportunity to secure an elementary education, the children have had an opportunity to go through our school systems and a few through college. In the case of the Mexican-Americans a serious social problem has been created when the youth succeeds in getting a good education while the parents remain illiterate both in English and in Spanish. A conflict enters into the home which retains the Mexican culture pattern while the children are being taught American ways and habits. This Mexican family may have to face still a more serious dilemma because of the prejudice and discrimination that may exist against Americans of Mexican descent in that community.

The problem described above exemplifies that there is a vital need for such a program that will integrate the culture of a minority group into the American group with the minimum of social unrest to all concerned. The United States is generally regarded as a "white" nation. Yet, the white population of this country is sharply divided into minority groups which are distinguishable one from another. The distinction is more pronounced in the social behavior of the people. The normal question is asked. Who is the typical American? What are his food habits, what are his racial traits, what are his beliefs and ideals? All of these queries are quite pertinent to our discussion for the answers will undoubtedly be numerous, different, and conflicting.

Anyone who comes to visit the United States will immediately discover that the leaders of our American culture, industry, political life, and everything else considered typically American, are Anglo-Saxon Americans and other Americans who have intermarried into this majority group. The rest are Americans who belong to the various and diversified American minority groups who are slowly taking their place within the majority group described above. Some of the minority groups have but minutely dented the American social structure for it is evident that the presence and the acceptance of the darker-skinned minority groups are struggling to win an important place within the majority group of Americans.

The issues presented in the last two paragraphs constitute the basic problems which will be elaborated in the discussion which will follow.

The question immediately comes to mind. Is the majority group of Americans going to permit that a new and dynamic American society emerge from an international inter-mixture of the American minority groups with each minority group contributing distinctly in the new culture that is to evolve? Or is the American culture going to remain preponderantly Anglo-Saxon American with the minority groups becoming gradually absorbed and assimilated by the majority group?

If we had an answer to any of the two questions interrogated above,

then we could claim to have a bi-lingual program which we could follow. As it is the case we do not have in the United States a uniform and national bi-lingual or intercultural program which could be applied in any part of the United States. Our educators, social workers, religious leaders, politicians, industrialists, and the many other leaders that we have, all offer us different and divergent theories and opinions which certainly would not represent a uniformity of thought on the topic now being treated. We all know that all persons who become citizens must have some knowledge of the English language, an understanding comprehension of our American constitution, a basic knowledge of our American history, and a clear understanding of American ideals and democratic processes. Thus, anyone who wishes to become an American citizen must fulfill certain legal requirements and after that, he is an American citizen. Legally speaking a person can become an American upon the fulfillment of certain requirements. That doesn't mean that that individual will become one of the majority group of Americans. The social lines are well-marked and the individual must undergo and pass through an educational process and cultural process which will enable him to become part of the majority group of Americans.

Each section of our country and each state has its own solution in the treatment of the minority group which exists within its borders. The deep South has the Negro carefully stratified and frozen to certain social freedoms. The Southwest is attempting to stratify the Mexican-American following the pattern of the old South, but the Mexican-American has proven to be less docile than the Negro and in many ways has climbed the social ladder in a remarkable way, much to the chagrin of those who wish to see the Mexican-American as the source of cheap and docile labor. The North-Central and North-Eastern sections of the United States can truthfully be called the melting-pot of the nation. The minority groups in those sections have inter-married and crossed their native cultures to produce a new American culture which could well lead the way in a national program to bring about the merging of the American minority groups into one American culture. The Middlewest or the Central section of the United States still retains dogmatically the old American culture which is predominantly Anglo-Saxon in nature. The Italian-American, the Scandinavians, the Spaniards and others are still regarded as "foreigners" to the American scene, not to mention the Negroes, the Orientals, and in some ways the Latin-Americans.

The social practices, the folkways, the mores, and the taboos of the American people in many ways are not commensurate with the laws that govern the land. The federal constitution provides that there be no distinction between Americans because of race, religion, or color. Again, each state and section of the United States interprets the highest law of the land according to local idiosyncrasies, biases, and attitudes of the people who actually control the industrial and social life of that region. One state may regard it constitutional for whites and Orientals to inter-marry. Another state will not recognize such a nuptial union on the grounds that it isn't socially acceptable nor recommendable. In several states the Negroes do not have a right to vote and in other states the Negro vote plays an important part in the state and national elections. Some states make it

illegal for the schools and public business places to practice or impose segregation and discrimination. In other states it is lawful for the citizens to deny public service and social recognition to certain minority groups because of their racial background. The writer could go on pointing out other undemocratic practices which find legal protection in the laws of the state.

Several court cases have been waged in federal courts in which the state laws have been contested because the state laws violated the laws of the nation. Where the jurors have been fair and unbiased the court decisions have embarrassed the parties which have chosen to impose discriminatory and prejudiced acts. On the other hand in states where certain minority groups have been ostracized and completely denied their citizenship rights, the court actions have failed to rectify the unjust laws because the state leaders and jurors themselves do not agree with the correct interpretation of the law.

That we do not have a national and uniform plan for the treatment of minority groups has been clearly demonstrated. That we need a bi-lingual program to help adjust the American minority groups into the American stream of life is a need which should interest every American who believes that "freedom and justice for all" should be a goal that every worthy American should enjoy as a citizen of this great nation.

It is now pertinent and wise that we consider some of the basic American institutions in light of a proposed intercultural program which could be established. The state, the school, the church, the community, recreation, and the home will have, as in the past, a prominent part in the acculturation of the American minority groups in the life, in toto, of the American nation. These institutions function in coordination with one another. The home can not remain isolated from the functions of the other institutions. A successful intercultural program will not evolve unless these basic institutions work together in pursuance of the common goal.

The school is in a position to take one of the leading roles in any effort to adjust the lives of the minority groups to the American scene. The schools are attended by children of all backgrounds and it is in this childhood experience that the beginnings of an inter-cultural understanding will begin to take concrete form. The children are not usually aware of color lines, economic compatibility or incompatibility, racial prejudices which are peculiar to adults, and other mature attitudes which a child does not grasp until he is an adult who thinks and learns to discriminate for himself. Once a child begins to demonstrate a "hatred" or dislike for people who are physically different from him, the child has acquired that attitude from someone who has an important influence in the life of the child. That is why the policy of segregation in the schools is dangerous for the maintenance of harmonious attitudes in the minds of children.

In the urban areas the schools have not separated the children because of the racial or economic background of the children. The rural areas have been more prone to segregate their school children much more than the urban areas. The reasons for practicing segregation have been usually based in the inability of the minority group to understand the English language and the American social customs. If that be the case, there is no better method that could be followed in order to forestall the learning of

the English language and the American social customs. A teacher in a segregated school can not possibly present the opportunities which the children could have if English-speaking children were present. The children of the minority group could have a real and practicable opportunity to learn those things in an unsegregated school.

When the policy of segregation is challenged still further, the real issues become apparent. The economic differences, the health conditions, and the "backwardness" of the minority group are played up to an amusing degree. Behind this type of thinking is an attitude of prejudice and dislike which outside of the thinking process has no scientific validity or support. Given equal opportunities and a decent treatment in the classroom, all children will produce and learn according to his own inherent abilities and intelligent level. Prejudiced folks will argue that the color of the skin will determine the intelligence of the person. The best answer to such an unscientific point of view is the remarkable record in school achievement made by children of dark-skinned parentage.

The obligation of the school is to produce well-prepared adults who can take their place in our American society. Unfortunately, this goal has yet to be achieved in many areas.

The community organization is the best social thermometer available to help judge the life of any community. Most of the minority groups have voluntarily aggregated themselves in geographically enclosed areas in colonies. Even today we find communities composed of Italian-Americans, Mexican-Americans, Chinese-Americans, and other minority groups. The Jewish minority group still retains the European habits and social customs. Some minority groups dress and eat exactly as they did in their native countries. Newspapers, magazines, movies, and other forms of entertainment are still produced in the native languages of the minority groups.

In many places the majority group has placed living restrictions in order to keep out certain minority groups which are undesirable, regardless of the educational and economic standing of the group. Public places such as barbershops, theaters, hotels, restaurants, usually respond to the demands of the community. They will deny service to the members of the minority group, even if they have to risk a public suit. Doctors, dentists, lawyers, and other professional people are not prone to impose racial restrictions.

Another powerful American institution is the church. The Christian dogma, if practiced in a Christian way, does not uphold the theory that there are superior and inferior races. The Christian principles stand firm in the belief that all human beings were created equal before God. Since the church is the institution that upholds morality and the respect for the human personality more than any other institution in our civilization, it has a splendid opportunity to bring together the American people in an atmosphere of Christian unity and fellowship which is essential in any inter-cultural program.

The role exercised by the state in an inter-cultural program has already been referred to in our discussion. If a national inter-cultural program ever evolves, the federal and state governments will take a leading role in establishing the necessary machinery to put the program in action with the full and responsible cooperation of the other institutions.

The field of recreation offers one of the best forms in which the inter-cultural program could be put into effective practice. The schools have proven that all children have physical abilities which can be developed without entering into a racial debate. The Negro youngster has proven that his mental and physical alertness can be matched with that of any other minority group. When children and adults are at play, no one thinks of a superiority complex or of an inferiority complex when the chief aim of the person is recreation for good health and personal enjoyment. Community recreational programs should be encouraged where all of the children in the community can gather and play without making personal distinctions.

The Y. M. C. A. clubs, the Boy Scout troops, the 4H Clubs, and many other similar endeavors offer wonderful opportunities to children of all minority groups and the majority group to learn to play and work together as real Americans.

The home is the most important of all the American institutions. It is in the home where the person first acquires the attitude of tolerance, respect, understanding, and other attitudes which will enable him to enter our social life with recognition and with happiness. If the person grows prejudiced and biased against other people, that achievement must be attributed principally to the home. A happy home, a successful home, a secure home, these are ends which every American citizen dreams of.

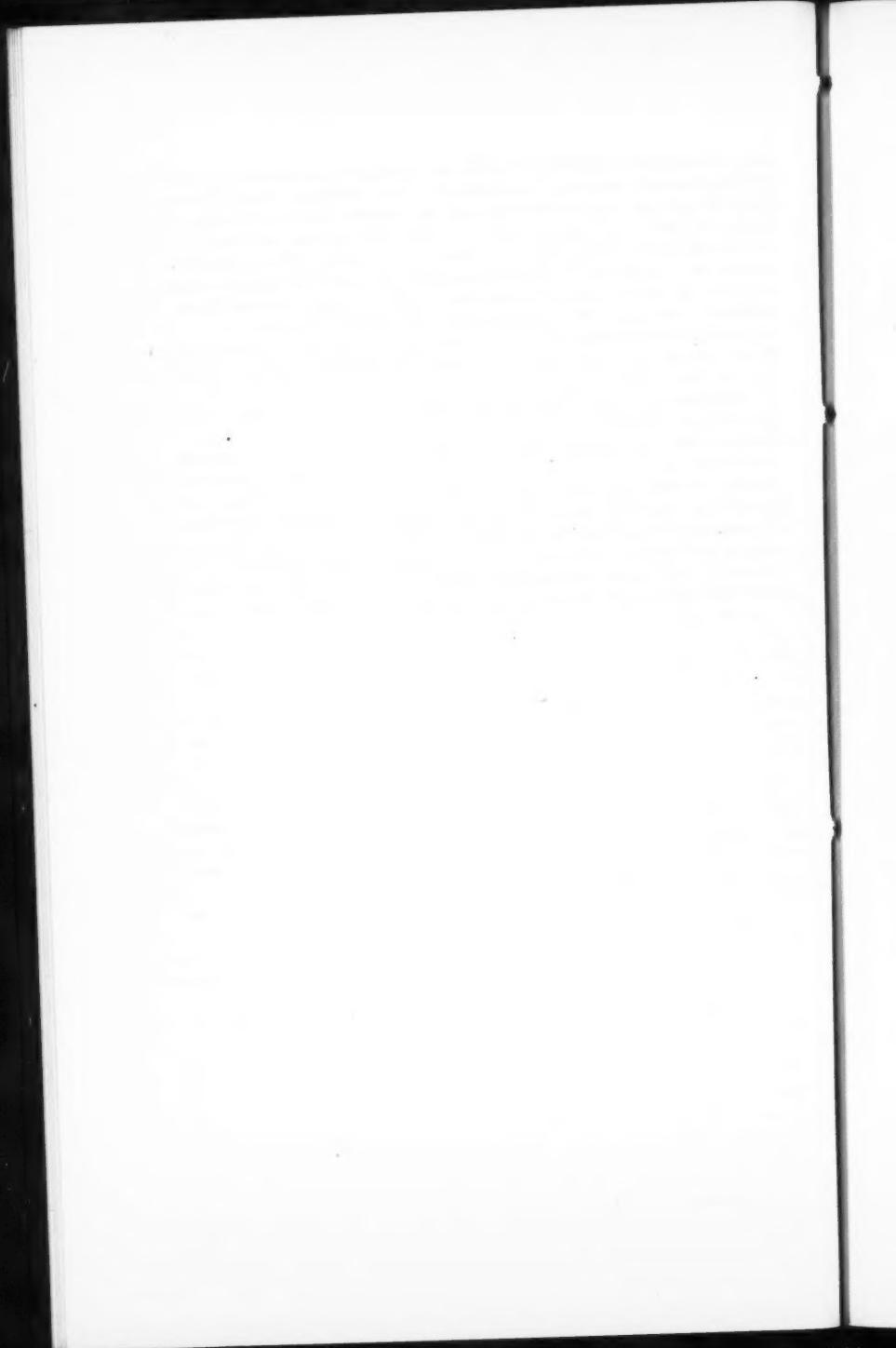
No society can claim perfection in the hard task of maintaining a social structure in which all of the participants can enjoy absolute freedom from certain weaknesses that are inherent in the human character. The human personality is made up of desirable and undesirable traits which must be continually checked, re-educated, and constantly nurtured so as to produce a balanced personality which should be the aim of every individual interested in his own personal progress.

The social problems in the United States are many and too complex to consider them all in one single discussion. The bi-lingual or inter-cultural problem in the United States is one that needs careful consideration and study in any plan to bring about the social betterment of the American people. The American minority groups have rich contributions to make to the United States if the American people are willing to accept them. The United States has an opportunity to prove to the world that the racial problem can be solved thus proving to the peoples of the world that democracy can be made practicable in all fields of human endeavor.

Principles Which Could Govern a Bi-Lingual Program

1. The language spoken by the minority group should be retained. On the other hand the English language should be mastered by all citizens, regardless of their background.
2. The minority group should be permitted to contribute their own native culture to the American culture. In the process the person will become Americanized without losing the best that his native culture has to offer to the United States.
3. There should be cooperation between the different American groups in community projects which affect the majority group as well as the minority group. The missionary attitude should be abandoned and supplanted with a democratic cooperation between the American groups.

4. The educational institutions should not segregate the children according to the racial or economic background of the children. If the American minority groups are to be expected to become Americanized successfully, the policy of segregation will retard the process of acculturation of the minority group into the American culture. When children are segregated they do not have an opportunity to learn the English language and the American social habits that could be easily learned from the children who come from thoroughly Americanized homes.
5. A bi-lingual program should be promoted with the combined efforts of the school, the community, the state, the minority groups themselves, and the other major institutions.
6. A bi-lingual program should give more importance to the youth of the minority groups.
7. Undemocratic practices aimed at the minority groups should be challenged by citizens who are interested in preserving democracy. If people organize to limit the democratic process, American citizens should also organize to safeguard and promote democratic practices.
8. An attempt should be made to teach the language spoken by the minority group. In Europe and Latin America a person is not considered cultured unless he can speak at least one other language beside his own. The people in the United States can profit greatly by such a plan.



Division IV

Aural and Visual Factors Affecting Reading and Learning

"--- Hearing is the sense through which the fundamental keystone of civilization was carved: language. Any interference with the sense of hearing, no matter how small, will have a tendency to interfere with a child's participation in any circumstance where language is being used, particularly while language is being learned."

Willard Hargrave, Executive
Director Auricular Foundation Inc.

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THE PLACE OF VISION in the INVENTORY OF PERSONAL FACTORS AFFECTING LEARNING AND READING

*Winifred Hathaway, Associate Director,
National Society for the Prevention of Blindness*

"Of the making of many books, there is no end." Thus wrote the author of Ecclesiastes centuries before printing was invented. Despite the call of the radio, of the phonograph, the lure of moving pictures and the promises of television, reading is the open sesame not only to learning but to a world of wonder and adventure.

But lest much study, as the author of Ecclesiastes foretold, become "a weariness to the flesh," increasing attention is being given to the principles and procedures of teaching children to use correctly and efficiently this basic tool.

"Little child, don't be so tragic
Because your firm belief in magic
Has been rudely shattered.
As though that mattered!

In a very short time you will learn to read
And that's all the magic you will ever need."*

In order that every child may find this open sesame to learning, reading clinics have been established and reading conferences have been held throughout the land. Until recently these—especially the clinics—have been concerned chiefly with remedial measures. The story parallels that of medical procedures: treatment of something that has already happened. But just as the physician has learned and is constantly learning that prevention of a difficulty is infinitely more important than its treatment, so the educator, although he realizes, as does the physician, the necessity for remedial work, is turning his attention more and more to finding a solution of the problem of preventing reading difficulties. In order to do this he must be concerned fundamentally with the causes of reading abnormalities. The plural is here used advisedly, for the consensus is that no one cause can be laid on the altar as a scapegoat; indeed the ramifications that often result from an apparent cause may prove more inhibiting than the cause itself. There is, however, definite acceptance of the fact that physical and mental disabilities are some of the roots from which ramifications grow and spread. Therefore any inventory of personal factors affecting learning and reading must include physical and mental abilities and disabilities, since these have a vital bearing on achievement.

*Ives, Roma Evans. *Aladdin's Lamp*. National Parent-Teacher, June-July, 1938, vol. 32, no. 10, p. 19.

Impressions of the world in which the individual lives are carried to the brain for interpretation chiefly through the sense of sight. For all people except the blind the mechanics of reading are inevitably linked with vision. It seems logical, therefore, that this should be given primary consideration in this inventory.

Vision is an exceedingly complicated process in which the eyes play only a part, although a very important one. There must be something to be seen, light by which it may be seen, eyes through which the light sends the message to the brain, and a brain capable of interpreting that message. In any educational program all of these essentials must be given consideration. Is the print too small or too complicated in form for the eyes to see clearly at their particular stage of development? Are margins and spaces between words and lines such as to contribute to ease and comfort of reading? Is the paper sufficiently dull that there is no reflected glare, and the ink such as to produce the necessary contrast? Are illustrations presented clearly and graphically? Is the illumination correct in quantity and quality—the amount adequate for the task and for the eyes that have to perform it; is it properly diffused, directed, distributed, and without glare? Are all parts of the eye so coordinating that a correct message is being sent to the brain, and is the brain able to interpret the message? If any of these essentials are lacking, the object may be invisible or the message may be so garbled as to be unintelligible or only partly comprehended.

The printed page and whatever illustrations are used are amenable to change; indeed it takes only a comparison between school books of even a few decades ago with the up-to-date publications of the present era to appreciate how much has been accomplished. But are all school books "up-to-date" in format as well as in content? Illumination is also a flexible medium. Here, again, almost unbelievable improvements have been made since the days of the first Edison electric lamp. But the applications of these is by no means universal and much needs to be done to "brighten up the corners" of innumerable schools, homes and offices. The urgent war need for production has given industrial concerns the impetus to lead the way, and through their example schools are learning that a saving of time, energy and skill in the educational processes is just as important as in industrial procedure.

The eyes are less flexible than illumination and materials, yet advances are making possible, through medical research, prevention of diseases that have in the past so affected the eyes as to have greatly influenced the learning processes. Advances in surgery and in optical instruments and appliances are likewise contributing to greater visual efficiency in many cases. The fact that the number of remedial reading clinics is increasing is evidence of the growing appreciation of the importance of this medium, but the very increase accentuates the necessity for preventive measures.

The great question seems to be where to begin. Shall this be in the preschool years? If so, how far back shall these years date? Thirty-five states have answered part of the question by passing premarital laws, and thirty, by enacting in addition laws requiring the examination and treatment, where necessary, of expectant mothers, to prevent transmission of disease to the unborn child. Scientists are at work in countless laboratories weighing the effects of the nutrition of the mother on the eye development of the foetus.

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If this seems too far removed from reading difficulties, the expert in the teaching of remedial reading has only to call to mind the halting interpretation of the printed symbol by the child whose eyes are unable to see it distinctly because of prenatal infection. The report of the department of health of Connecticut* tells a story that may well become a twice told tale. The report states that since the premarital and prenatal laws were enacted in 1936 and 1941 respectively, the number of children under fifteen suffering from syphilis transmitted prenatally dropped from 110 to 27, and possibly even the 27 might have been spared had not some marriages taken place in states not having such laws, and had not some expectant mothers failed to report for examination.

But perhaps the most pertinent question in the minds of educators is what is to be done here and now to prevent reading difficulties. There is no one answer, but of the many preventive measures, three stand out prominently:

- 1.—Every child should be given a thorough medical and psychological examination before he enters school in order that,
 - a) difficulties that may affect the child's welfare physically, emotionally and educationally may be discovered and if amenable to treatment be given it before he enters school, so that he may take full advantage of all the opportunities available;
 - b) the educational authorities and the school health service be given adequate reports of difficulties that are not remedial in order that measures be taken for necessary individual adjustment.
- 2.—Every school should provide such environmental and physical conditions as to ensure the greatest welfare of the child, and should make available educational media to meet individual needs.
- 3.—Every teacher should be prepared to understand, appreciate and meet individual needs wherever possible.

So far as visual work is concerned, such understanding presupposes that every teacher has at least a practical knowledge of anatomy and physiology of the eye and of its growth and development, in order to be able to judge what may be expected at various stages. The well prepared teacher realizes that the young child is normally hyperopic and therefore sees objects at a distance much better than those at close range. To prevent reading difficulties the teacher will see that materials are provided of such size and distinctness that they may be held at the distance most comfortable for ease of seeing. To prevent emotional upsets that so often affect learning procedures, she will arrange very short periods of close eye work, using pictures or stories of sufficient interest that the child will be willing to make an effort to gain and increase concentration.

The well prepared teacher will likewise realize that the nearsighted child is prone to hold his material too close to his eyes, that since his lack of vision for distance prevents his participation in many activities he will be likely to do too much reading. Her responsibility is to create social interests and to see that activities in which he can successfully take part are made available. The well prepared teacher knows the pitfalls that face the child

*Connecticut State Department of Health. Mimeographed News Letter, vol. 27, no. 6, Feb. 5, 1945. Tabulation of Congenital Cases of Syphilis Reported Under 15 Years of Age: 1935 Through 1944.

with uncorrected astigmatism, and makes every effort to prevent the reading difficulties that are likely to result from his blurred visual concepts. She knows, too, that a child may have reversals in reading from many causes. Stanger and Donohue* have given a variety of simple tests by which such difficulties may be predicted and, in most cases, prevented if the teacher adapts methods at the very beginning of teaching the child to read, using, perhaps, the kinesthetic method or letting the hand guide the eye by placing it at the left of the page until desirable habits can be established. If the child comes from a home in which Hebrew literature is read by the parents from right to left, or from a Chinese family in which the reading of characters is up and down, the teacher, remembering the laws of imitation, will have these possibilities in mind with little beginners and will make every effort to set them on the right road.

From her study the well prepared teacher will know that the child with strabismus (cross-eye) or other muscle imbalance may or may not have reading difficulties, depending somewhat upon the stage of the abnormality. In strabismus, since the two eyes are looking in different directions, the images on the two retinae—the receiving stations in the eyes—are not the same. The brain cannot fuse two different images into one, hence the child at first has double vision from which such confusion arises that he tends to suppress the image in the deviating eye and use only the unaffected eye. When he is getting double images not only reading but personality difficulties are apt to arise. Since reading does not require depth perception these difficulties may disappear as soon as he succeeds in suppressing the image in the deviating eye. His reading may improve but at the expense of his sight because blindness in the crossed eye may result from disuse. This exemplifies one of the urgent reasons for eye examination early in the preschool years, for if corrective measures are taken at the first indication that the two eyes are not working together as an age when coordination should have been established, strabismus can usually be prevented and not only is the child's sight saved, but possible effects on his education and on his personality averted.

It is evident that, just as in medicine treatment of difficulties that have occurred is essential, remedial reading is not only necessary but will be for a long time to come. A good beginning for prevention of reading difficulties lies perhaps in a realization of the sins of omission as well as those of commission in teaching beginners to learn the most desirable and efficient ways of using this educational tool. In the past it was the custom to place young, inexperienced, and often none too well prepared teachers in charge of children entering school, but time has taught that the very best equipped teachers are the ones to guide beginners on the paths of learning. If this be true for general educational procedures (and who can doubt it?) it is essentially applicable to the teaching of the basic tool of learning. When remedial defects are discovered and corrected before the child enters school; when teachers are forewarned of those that cannot be remedied and are adequately prepared to meet them; when schools provide proper environment, equipment and educational materials; when experts in all phases of the art

*Stanger, M. A., and Donohue, E. K. *Prediction and Prevention of Reading Difficulties*. New York, 1937. Oxford University Press.

of teaching reading are given the opportunity of laying those foundations on which the child himself can successfully build according to his needs, there will be little, if any, necessity for remedial reading clinics. Then, indeed,

"Little child
In a very short time you will learn to read
And that's all the magic you will ever need."

MISINTERPRETATION OF SCHOOL TESTS OF VISION

A. Burton Clark

B.S., O.D., Visalia, California

Chairman of Committee on School Facilities and Curricula
California State Association of Optometrists

The Snellen Chart has been commonly used by schools to measure the visual abilities of the pupils. At the risk of stating what may already be known by most of you, I shall describe the nature of that test. It is important that we bear in mind what it measures as well as what it does not and can not measure.

The Snellen Chart is generally a sheet of white cardboard on which has been printed rows of black letters. At the top of the card is a large letter E which is designated as the "200 line." This means that the letter is sufficiently large and so formed that it can be read at two hundred feet under standard conditions and by persons having "normal visual acuity." The next line consists of a row of somewhat smaller letters. It is similarly designated as the "100 line." Succeeding lines are composed of progressively smaller letters adapted for use at seventy feet, fifty feet, forty feet, thirty feet, twenty feet, fifteen feet and ten feet, respectively.

For practical purposes in visual measurement twenty feet is considered to be "optical infinity." Therefore, the chart is normally placed twenty feet from the person being tested. If the "40 line" is the lowest one he is able to read, he is reported as having 20/40 vision. This expression should be read "twenty-forty" and not "twenty-fortieths." The expression has the form of a fraction but actually it is not intended to be interpreted as such. It does not imply that the patient has fifty per cent vision. It means merely that the letters designed to be read at 40 feet distance were actually read at 20 feet.

If at 20 feet distance the person reads the "20 line" correctly but

cannot read the "15 line" he is said to have 20/20 or "normal vision." This should not be considered as meaning *perfect* vision. Many people are able to read "15 line" or even the "10 line." Their achievement is recorded as 20/15 or 20/10 respectively. The number to the left or above the line denotes the distance at which the person read. The number to the right or below the dividing line indicates the chart line which was read.

Many school visual surveys are made by having the students stand twenty feet from the Snellen chart and attempt to read the "20 line." If the student is able to read it he or his parents are told he has "normal vision." This is not necessarily correct. He has normal visual acuity at that particular time and perhaps for a few seconds. But there is no information available from such data to tell us what amount of nerve energy is necessary to achieve this normal visual acuity nor for how long a period of time the vision may be maintained. Nor are we certain from such data that he will have normal visual acuity at the near point. And, it is this distance about which teachers are generally most concerned, the distance at which books are read.

Teachers may notice that one of the pupils squints, frowns, or holds his book at odd angles when reading. This pupil may report that after reading for a few minutes the words "run together" or "my eyes burn," or "I get a headache." Yet this same pupil may have easily read the "20 line" on the Snellen chart twenty feet away and may have been told that he had "normal vision," or his parents may have been allowed to assume that he has "perfect eyes" because he did not fail the "school eye test."

No assumption could be farther from the truth. The United States Naval Academy has found and has reported in the United States Naval Medical Bulletin for April 1940 that many midshipmen who had been admitted to the Naval Academy with supposedly normal or 20/20 vision have become myopic (nearsighted) a year or two after admission. The Navy Medical Department attributed this increase in myopia to the fact that when they were admitted to Annapolis a number of candidates who read 20/20 Snellen had at that time latent or low degrees of myopia and under the strain of study at the academy soon became more myopic. The article states that normal eyes may not read 20/20 soon after excessive use but that they promptly return to normal conditions after a reasonable amount of rest. Thus we see that students may read 20/20 on our school charts and not have normal vision and others may not read 20/20 at one time but may at another.

The medical officers at the Academy state that it is impossible to predict with any degree of certainty the probable future vision of a person but experience has led them to consider all candidates showing less than one unit of farsightedness (hyperopia) to be doubtful cases in so far as maintenance of normal vision during their four years at the academy is concerned. Candidates showing only half a diopter of farsightedness (half a unit of hyperopia) are considered to be definitely poor risks as regards their probable maintenance of normal vision. From this we see that 20/20 visual ability is not sufficient. One should have a visual reserve, and this reserve is not something that can be measured by a Snellen chart nor can it be determined by other simple tests of visual acuity.

What is "hyperopic reserve" and how is it measured? A very practical

This definition might be, hyperopic reserve is the ability of an eye to recover from the effects of close seeing, or in other words to regain clear distant vision. The simplest (but not the best) way to measure it would be to place convex or plus lenses of known refractive value before an eye while that eye is being used to read the 20 line on a Snellen chart twenty feet away. An eye with a one diopter of reserve would be able to read the 20/20 line clearly through a +.25, a +.50, a +.75, or a +1.00 diopter lens but the line would appear blurred through a +1.25 diopter lens. This ability is considered a reserve as long as the eye is able to read the line equally well without as with the lens. Such reserve is generally high in children and decreases as one grows older. It is considered to be a deficiency when the amount is so great or because of increasing age the eye is unable to read the line without the aid of convex lenses.

If the reserve ability decreases too rapidly one is in danger of becoming nearsighted (myopic) because as stated it is this reserve which permits eyes to return to normal after prolonged focusing at near. As stated in the Navy article eyes having less than one-half of a diopter of hyperopia are quite likely to become myopic if used excessively for close work such as studying.

It is the belief of the writer that it would be better to make no school vision tests at all than to allow those who are able to read 20/20 on a Snellen chart to think that because of this their vision is satisfactory and that they are in need of no more thorough tests. As was found at the Naval Academy many who had little or no hyperopic reserve were able to read 20/20 but the strain of hard study caused them to become myopic.

This happens very commonly to students in the elementary schools as well as to high school and college students. The writer, as patients, frequently has children who report that they passed the school "eye test" last year but now they cannot see the blackboard unless they move to the front row. These were borderline cases who were allowed to believe that all was well because they could read standard letters on a chart twenty feet away.

The Snellen test is in no way diagnostic nor prognostic. It is very much like a thermometer for measuring a person's temperature, it tells you nothing unless an abnormality exists. The physician does not prescribe from temperature alone, it is only one bit of information in the whole syndrome. There are other skills equally or perhaps even more important, eg, fusion and depth perception, and the ability to change focus easily and rapidly from near vision to distant vision and the reverse.

Low distance visual acuity indicates that the organism has made all the adjustments or concessions possible in order to continue to achieve visually at a point where a greater demand is being made on vision. This may not be true for cases of astigmatism except for those who were able to maintain 20/20 vision for distance for several years but who are now unable to do so. This paper is concerned chiefly with cases who have or have had normal distance visual acuity but who at some later date are unable to achieve this vision.

The writer has often hoped that school personnel who have learned to make visual tests would also learn to make more valid interpretations of the results they obtain. One is uncertain whether to favor the giving of school tests of vision when such erroneous interpretations are made as those

with which visual specialists have to contend. This point was illustrated recently in a case brought to the writer's attention when a patient who had only one eye was rated as having no depth perception. He failed to pass a test which was designed to measure depth for people having binocular or two eyed vision. A similar situation exists when a pupil is told he has "perfect eyes" because he is able to read certain letters on a chart 20 feet away, and with one eye at a time at that.

The question that probably comes to the mind of the reader is, what kind of visual tests should the schools make? This question of course is based upon the assumption that the schools should make visual tests. The writer does not feel that it should be necessary for the schools to make visual tests any more than they should be compelled to make dental surveys and other health examination. But rather than have tests of vision completely neglected probably it is better that the schools make them. However, this is true only if the schools make valid tests and the data obtained are properly interpreted and used.

Because many schools do make tests of distance visual acuity and since it is very important and is the skill about which the layman knows the most let us start with this as the number one skill and use the Snellen chart to measure it. But remember it is a test only of distance visual acuity of one eye and under the conditions existing at the time of the test. By covering one eye we largely eliminate that eye from the test. By leaving both eyes uncovered we have no way to tell which eye is being tested. It must not be assumed that both eyes are attaining 20/20 vision merely because each eye did with the other covered.

There are tests available that can be used in the schools and that measure the visual acuity of each eye individually while both eyes are seeing. They should be used in conjunction with and to supplement the Snellen chart for the loss of visual acuity of one eye while both are seeing indicates that a change has occurred which has caused a loss of binocular functioning and which leads to less efficient vision. It is understood that tests of vision require trained and competent personnel for their administration. Only when such are available is the use of such tests recommended or acceptable.

These tests also measure ability to judge depth and maintain single binocular vision. There are other skills, the loss of which generally precede the lowering of the hyperopic reserve leading to nearsightedness, or to uncomfortable, inefficient vision.

If tests such as these were used in a school visual testing program we could look forward to a great reduction in the loss of ability to see well at a distance. A recent government survey indicates that myopia increases about six hundred per cent between the first and fifth grade. Most of this loss of distant vision could have been prevented because myopia (in general) is an acquired condition; it is an adaptation to a nearpoint environment or task. An adequate visual testing procedure, in the school if you prefer, would be the first step in a preventive program. Not only can most myopia be prevented but distance visual acuity having suffered a loss can be regained in many cases and improved in most cases when properly cared for. However, such a treatment is not within the province of this paper nor is the remedial procedure one that can be carried on in the schools as they are now equipped. Our principal point is that having demonstrated 20/20

visual acuity is not a safe criterion that all is well with one visually or that the present ability will stand up under severe use. We need a better knowledge of vision and better instruments and procedures for measuring it. But above all we need to learn to interpret the test results in a valid manner.

Bibliography: *United States Naval Medical Bulletin*, Volume XXXVIII April 1940 No. 2.

A SOUND-READING PROGRAM

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The hyphen is important to the meaning of this title. It emphasizes the point that we are concerned with the reading of sounds. It is our contention that a sound reading-program must include adequate and proper provision for the development of sound-reading abilities.

Sound-reading isn't a new fad. It is something which all hearing persons practice much of the time. As a pedagogical problem, however, the reading of sound has not received much attention. School practices have been so concerned with developing abilities to read printed word symbols by visual means that little attention has been given to sound-reading. This misconception of the adequacy of visual reading to meet all of man's reading needs can be illustrated by the following play on words which went the rounds a few years ago.

The automobile was being developed to supply transportation for all people. Naturally the problem of price and the matter of proper equipment were items of importance. Competition was keen among several makes of moderately priced cars. Each had its proponents and each had told about it a stock of stories and rumors.

Someone said, "I understand that the new Dodge Car will be cheaper next year. The new model will not need a horn."

Of course, such a statement immediately provoked the question, "Why doesn't the new Dodge car need a horn?"

The answer was, "It doesn't need a horn because it has 'Dodge' stamped right on the front." The visual instruction was presumably adequate.

Naturally, the sight of a car bearing down on one should be an adequate stimulus to dodge whether or not the car carries the printed instruction to do so. However, seeing things in print has become a powerful force for directing our behavior. No one pointed out how useless the visual instruction becomes when it cannot be seen. Incidentally, the Dodge cars

were equipped with horns to stimulate sound-reading, just as were the other cars.

For many years *reading* has been interpreted to refer to visual interpretation of printed word symbols. In the researches and instruction at Claremont College and particularly through the activities of this annual reading conference a truer and more useful conception of the nature of the reading process has been developed. Sound-reading is one phase of this broader idea of the field of reading. Sound-reading refers to the need for sensing and for behaving adaptively with regard for sound stimuli.

Perhaps the first and most obvious sound stimulus to associate with the more traditional concepts of reading is that of oral speech. Spoken words differ from printed word symbols largely in their mode of presentation. Both the aural and the visual forms represent ideas. Both are symbolic. Neither makes sense unless the reader projects meaning to them. Each demands the use of special skills and techniques if reading is to be done with facility and meaning.

Oral speech is, however, not the only stimulus for sound-reading. The illustration used above which brought out the fact that automobiles need to be equipped with horns is indicative of another type of stimulus for sound-reading. Many kinds and types of sounds are encountered in our daily lives. The effectiveness with which we read them determines in considerable measure the fruitfulness of our lives. The sounds of industry, transportation, and activities of many kinds must be read. Whistles and bells signal meanings. Music must be heard in order to be enjoyed. Hearing is important and hearing is the basis for sound-reading just as seeing is the basis for visual-reading. Aural reading needs to be developed in order that the abilities needed to accomplish the necessary reading of sounds will be adequate and readily available.

We have learned that effective vision is a development and not a gift. The possibility for seeing is native but the ability to see specific things in the ways in which they should be seen and to make meaning of that which one sees with the visual process are abilities produced or developed by education. In like manner sound reception and a certain degree of discrimination are native characteristics but the abilities to hear certain things and to make meaning of what is heard are things which must be learned. The mere possibility to hear is not sufficient. The potentiality must be developed into abilities by means of a sound-reading developmental program.

Good sound-reading presupposes the ability to hear well, but such a presupposition is no more tenable than would be the idea that all people see effectively. Good hearing is desirable as an abstract idea but we lack at this time adequate conceptions as to what good hearing is. Hearing in order to be of value must involve more than the mere reception and discrimination of sounds. There is a perceptual aspect to hearing which is very important when our concern is with sound-reading. Reading anything connotes more than the mere awareness of the existence of that thing. Hence in the setting up of a sound-reading program we shall be interested in the quality of hearing and of hearing perception as well as the amount of receptive ability which the pupils may possess.

Naturally the first consideration in a sound-reading program is to determine whether the pupil hears. If he does not hear and cannot be helped

to hear, he is not a fit candidate for sound-reading. If he hears but the range of his hearing is restricted, he presents one type of a problem. If he hears but only when the volume of the stimulus is very great, he presents another type of problem. If he has the abilities to sense sounds and to differentiate between them but lacks the ability to give them significance, that is still another type of problem.

The development of audiometric instruments and techniques for measuring the basic hearing abilities of pupils has assisted greatly the pursuit of effective sound-reading instruction. Audiometric measurements which have been administered and the results reported appear to indicate that approximately five per cent of the school children of this country are afflicted with significant loss of basic hearing abilities. The percentages vary rather widely for different regions and even for different schools within the same system. Indicating that basic hearing ability is affected by environmental influences. For example one study reported that disease of the middle ear was found to be four times as prevalent among children who were poorly fed as it was found among those more favorable situated in this regard. A study conducted by a school physician revealed the fact that less than two per cent of the children in one school building were suffering from significant hearing impairment whereas nearly seven and a quarter per cent of those in another building in the same system were so inflicted. The sound-reading instruction program in the two buildings should have been planned with these facts in mind. However, we must not expect too much from the use of the present audiometric measurements. It seems very probable that they are too restricted and too inadequate to serve well the needs of sound-reading instruction. This point may be illustrated by a similar situation in the field of visual reading.

The common test for visual ability was the Snellen Chart. It measured the ability to discriminate letter symbols of varying sizes at a specified distance from the stimulus. The measurement was for so-called visual acuity. If the student was able to see the letters which should be seen at the distance for which he was tested, he was said to have "normal sight". If difficulty was experienced with the reading of visual symbols, it was not attributed to any defect of the visual ability. More recently, more complete analyses of the visual process have been accomplished. Now visual acuity isn't considered to be a matter of greatest importance. Visual comfort and the efficiency with which two eyes may be made to work cooperatively are matters of greater import. Hence new test instruments and new techniques have been brought out to assist more effectively with measuring the conditions which affect the visual-reading program.

The present audiometers are comparable to the old Snellen Chart technique in the visual measurement field. The audiometers measure hearing acuity, but the more detailed analyses of the process of hearing are yet to be accomplished. When they are made and proper instruments are devised to measure the various aspects of hearing, we shall probably see many fine developments in the field of sound-reading.

Sound-reading and sight-reading are commonly so intimately associated that one supplements the other. Hence they must not be treated as separate and distinct types. For example, so-called "lip-reading" is a kind of sight-reading which is frequently used to assist those who have hearing

impairments which interfere with the normal process of hearing speech sounds.

The abilities to discriminate sounds are amenable to development. There was a time when they were conceived to be very largely fixed by innate characteristics. The Seashore tests for musical ability were widely used to "weed out" those who did not possess the requisite abilities. More recently there is a growing use of techniques for acoustical training which are designed to develop specific qualities of hearing. Such techniques are the primary bases for sound-reading instruction. The so-called "ear-training" which has long been practiced in music education and in speech education belongs to the sound-reading program. It should be evident that it is not the ear which is educated by such training procedures. The real development is in the realm of perception. It consists in the hearer's learning better how to use that which his ear receives in the form of sound stimuli. That sound-reading is important few people will deny. But there may be considerable hesitation in accepting it as a phase of the school's reading instruction responsibility. However, the usual program for "reading instruction" recognizes that visual reading evolves normally from the use of words in oral speech. A research reported several years ago indicates that at least in the early years of school experience more meaning can be communicated by the oral word form than by the printed or written forms.

Many times we have been told that one picture is worth ten thousand words. If the purpose of that expression is to accentuate awareness for the value of picture-reading, few will care to quarrel with it. However, the developments in the field of motion pictures clearly indicate that the use of sound-stimuli to supplement the visual picture is highly desirable. Of course, the use of sound-effects other than spoken word symbols greatly increases the value of visual aids to learning.

Sound-reading occurs whether or not planned provision is made for developing it in the school's program of instruction. Often times the sounds which occur in the environment of the school are such that reading them interferes with the efficiency of other forms of reading. A valid sound-reading program will consider and treat such matters as effectively as it cares for the more desirable parts of sound-reading. Acoustical conditions within and around schools have too long been neglected. This is another reason for requesting that more attention be given to the consideration of sound-reading.

The wider use of radio programs and of recordings for the implementation of instruction will demand better aural reading on the parts of the students. You probably recall the incident of the United States Senator who stayed away from the inaugural speech given by President Roosevelt and who gave as his reason the fact that hearing the President speak distracted the Senator's mind from the interpretation of what was being said. The Senator felt more competent to do visual-reading than to do aural-reading. Since such a large amount of our contacts with society and with the world about us involves the reading of sounds, it seems imperative that we address ourselves to the development of adequate sound-reading techniques and abilities.

In attempting this we must recognize that we are not proposing a new and untried approach to education. Sound-reading has always been prac-

ticed. What is now being proposed is that it be conceived as *reading* and that thought and consideration be given to its development comparable to that which has been given to reading printed word symbols. In passing it should be pointed out that visual-reading or sight-reading is itself much broader and more inclusive than the mere visual reading of printed words.

AURAL READING IN EDUCATIONAL DEVELOPMENT

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It would not be altogether inappropriate for us to set forth at this Reading Conference certain prognostications of future developments in educational processes in which many of our present day problems will have been solved through a more thorough grasp of the significance of audition, or aural reading, in learning and in mental development.

Perfection of technics for the improvement of use of the two major tools for learning: sight and hearing, have not followed on even pace with other technics. Audio-visual departments have been added to many school systems, but with a preponderance of accent on sight. The audio phase has been largely devoted to a not-quite-adequate use of radio and recordings for the purpose of information. So far there have been no technics for the sharpening of aural perception such as have been developed in visual training. In other words, the flash meters in visual training have no counter-part in aural training.

In some quarters it is becoming apparent that there is much to be learned regarding aural reading, largely in a belated comprehension that there is a wide difference between reception and perception. Many are now realizing that it is not scientifically sound to assume that aural perception is, or should be, of normal capacity without knowing, through investigation, of the ability to receive. Thus we have audiological examinations.

Telebinocular examinations and ophthalmic training must have, and in the future will have, their counter-part in the field of audition, and out of these two-fold technics will come such favorable results as will completely change some of our present day conceptions of the learning process, particularly in reading, and will help to solve many other major problems in education.

The influence of aural defects upon the child is no longer questioned by those who have known numbers of such children. No other imperfection of

the organic or sensory system causes so many aspects of egotrauma. Where one child will show his reaction in shyness and withdrawal from the group, another will be aggressive, troublesome, anti-social. Such differences may well be basic with the children themselves, yet variations between the types of their aural deficiencies will probably be found to be a factor of no mean proportions.

Research by the writer into aural defects as factors in child maladjustment, and based upon many thousands of cases in Juvenile Hall, Los Angeles, among our so-called juvenile delinquents, has developed enlightening information. One of the findings is that there is a definite symptomatic validity to visible pathology in aural malfunction which has a counterpart in behavior patterns. In other words, children with a certain type of aural defect will fall into a certain behavior classification different from those with another type of aural defect, or of normal hearers, without regard for differences in any other physical, environmental or hereditary grouping.

A selection of children at random from the population of Los Angeles Juvenile Hall gives any number of interesting results. It is found that the normal of hearing average one and one-quarter times in the Hall. Those with a conductive type of deafness will average two times, and those with a perceptive type will average two and one-half times. Clearly, insofar as hearing is concerned, there is a difference between types, and while the perceptively impaired children are to be found in the institution exactly twice as often (and incidently at twice the cost to the tax payers) their depredations against society are in the main of lesser seriousness.

The point for illustration is that these two general types of aural impairment cannot be classed as one educational problem. A technic developed for the conductive type of loss will not work well with the perceptive type. The corresponding divergence between the two types of defects in psychological patterns is another reason why they will have to be treated differently.

Future development in technics for training in aural reading will recognize one similarity between the two senses of sight and hearing. While visual acuity may be of the best, and a very young child has a normal capacity to see, the age element precludes full use of this ability in visual perception. Thus basic visual training in reading is assisted by the use of extra large print. In hearing we find the same limitation though it has not been readily accepted as fact. And as a result there is not sufficient information in the literature regarding the seriousness of very slight losses with children of preschool and primary age. Slight losses, particularly in the consonant range of speech must be given careful consideration in basic aural AND visual reading. Aural reading of speech predates the visual reading of speech symbols, and these very slight defects, often reflected in slight defects of speech, become an obstacle which must be overcome in the learning of speech or sound symbols.

It is known that those who have difficulty in hearing learn to read speech symbols from the speech organs—speech reading—(formerly called lip-reading) more rapidly than those with normal hearing. In tests of various abilities, the child with impaired hearing will have this advantage over the normal-hearing child. He must of necessity use his eyes to augment the weakened aural sense. That the normal-hearing child can read speech at all

from vision alone is not extraordinary; that he does not do more of it is because he does not need to and therefore does not become very familiar with the speech symbols, visually.

The present educational understanding of speech reading as an adjunct to the education of a child with an aural impairment, is limited because of the misconceptions relating to aural reading as an inseparable and indivisible part of the mental process. It is too often either neglected altogether or reserved for the child who is plainly and unquestionably hard-of-hearing or deaf. To do either is to deny many children a substitution or supplementation of tools in the process of learning. If a child has such acute hearing that he never misses a single audible sound, he will yet need to speech-read somewhat through vision in order to overcome the imperfections of articulation and pronunciation of many people who do not speak clearly. The best of hearers hear better, perceptively, if facing the speaker under good light and watching the movements of the speech organs. Also, a child may be able to hear only the diphthong of the word "shoe", and completely miss the sound "sh" and yet have the full word register because he could see the symbol of "sh" made with the speech organs.

Speech correctionists frequently are able to eradicate some of the errors of enunciation because of this basic fact. There may have been no studied approach from the aural standpoint, but the repetitions of the movements of articulation solved the problem.

So-called poor readers are largely found among children with slight imperfections of hearing not ordinarily recognized. These imperfections are often so slight that those thoroughly trained in acoustic physics might not recognize them without the added proof of a careful aural examination with an individual pure-tone audiometer. No other method, yet devised, will locate these losses to the degree and accuracy required for a scientific study of individual audition. Considerable research has not as yet brought out definite data upon which there can be accurately determined a potential or present reading difficulty by a test of hearing, yet there are at the present time sufficient data to justify the assertion that in many cases it can be done. Just why a certain defect in the middle range of hearing will indicate a poor reader is not known, but this "curve" will so often point unerringly to a need for remedial reading as to be little short of remarkable.

In one respect the trend in audio-visual education is on the right track, even though it is probably accidental or unintentional. The two words are hyphenated. For notwithstanding that too many of our English words, as printed, are not good phonetics, they are symbols of speech and in reading them from the printed page the auditory process is of as much importance as sight.

The future of aural reading in education as it relates to the process of reading, will take into consideration certain fundamentals. Children do not fall into two clear-cut categories: good readers and non-readers. The gradations from good to bad follow the rules of all subjects. Not all hearing defects are alike, either in degree of loss or of type, and any rule which includes all losses as of equal importance is certain to be in error much of the time. There must be a clearer understanding of the difference between aural reception and aural perception, just as there is a difference between quantity and quality. There is no recognizable line of demarcation between poor

perception caused by an actual loss of hearing in the range known as a "perceptive" loss, and poor perception due to other causes not necessarily of an auditory nature.

In seeking to develop instrumentalities or technics for the training of children in aural reading, there must first of all be a careful check made of the actual hearing of the child. There must be an understanding of the nature of the "output" of the radio speaker or other sound transmission equipment. It is not in the nature of ordinary sound equipment to be "hit or miss" in the over all characteristics of the output of the loud speaker or the phones. These have been designed as "high fidelity" or "flat" in their response, which means that certain frequencies or bands of frequencies have been amplified and others attenuated to meet the requirements of the normal ear. In some sense they are better than ordinary voice, and in others they are inferior. In none at all are they "natural". There is an artificiality which, while of no consequential features to normal hearing, may be unsatisfactory to an imperfect ear.

If it is the purpose of audio-visual education to improve the perceptual processes of hearing and sight; to help children grasp the significance of aural or visual stimuli, then the training must of necessity start with that which can be heard or seen. It is not uncommon to find children with losses of hearing which make it impossible for them to hear anything within the power of the human voice which is above the frequency of that voice. They can hear the vowels and some of the nasals as well, and a considerable portion of the fundamental tones of the voiced consonants, but cannot hear the upper range tones of the consonants. So far there has been very little development of sound equipment which can be expected to do much in a case of this kind, and certainly the standard audio equipment of the average school has not been built for this purpose.

Such a child will gain little from standard technic. It must of necessity be supported by speech reading, for the sounds he cannot hear through amplification can be seen, or the movement of the speech organs which make them are visible. There are many children who are today being exposed to audio training of this kind and who are benefiting very little from it, for it is obvious that in listening to the radio or recordings, the child who should be receiving speech reading training is getting none at all.

Future technics will correct all this. The substitution of "seeing" speech is rarely necessary in its entirety: the totally deaf are very few. Thus the training in aural reading will involve a correct amount of visual reading through speech reading of the particular portion of the speech range which cannot be heard.

It has been pointed out before in this Reading Conference that these defects of hearing have a tendency to change the disposition of children; that hearing is the sense through which the fundamental key-stone of civilization was carved: language. Any interference with the sense of hearing, no matter how small, will have a tendency to interfere with a child's participation in any circumstance where language is being used, particularly while language is being learned. Just as some children are apparently not at all bothered by a set of circumstances which will be of grave concern to others, so will some types of aural imperfections be of greater import to some children than to others. As with any involvement of any nature, the child as a

whole must be considered in a study of an aural problem. And it is in this regard that education of the future will correct the most serious error commonly committed today of too quickly confusing an aural deficiency with a basic mental deficiency.

This can best be pointed out by reference to victims of spasticity, or cerebral palsy. Much of the difficulty of these children is obvious, but not all of it. It is not widely known that almost without exception there is a loss of hearing of the perceptive or nerve type, and that this accounts for the somewhat lower I. Q. of such spastics who have been given the Stanford-Binet test. By correcting the probable error the spastic with a hearing defect is found to be completely normal but with the expected retardation of the child with an aural difficulty.

Future educational development in aural reading will give proper consideration to the average deplorable acoustics of the average school room just as it is beginning to become aware of the need for proper lighting in visual reading. There will be more stress on better speech and clearer enunciation in class room instruction and recitations, not only for the benefit of those who may not hear normally, but for the good hearers as well. Having a better understanding of the importance of audition in education, due consideration will be given to the circumstances which make sound symbols less effective in memory work than printed symbols and which have engendered the false conception that the eye is more important than the ear in learning. The transitory nature of sound as compared with the permanency of the printed sound symbol, are already so completely out of balance that it is little wonder that poor articulation, poor acoustics, strange new words, noise AND impaired hearing tend to retard the child not only in aural reading but in the reading of auditory symbols from the printed page. Taking into consideration the dual-sensory function involved in reading, the teacher of tomorrow will thoroughly check and study the carefully kept records of sight and hearing as she does the learning aptitude records today, and the majority of teachers will have prepared themselves to administer such tests in a truly scientific manner.

In thus preparing herself properly to evaluate any deficiency in hearing, or sight, and in recognizing the circumstances of acoustics, et cetera, which are detrimental to good hearing or good sight, she will have become a better teacher. This may not involve any new teaching methods, or new knowledge on her part, but it will mean that that which she is endeavoring to impart to her pupils will be better assimilated, receptively and perceptively.

AUDITORY FACTORS AFFECTING LEARNING

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Educational procedures have taken for granted generally the part our sensory faculties play in learning. In recent years consideration of the implication of faulty or imperfect vision upon a child's educability has come to the fore. Even more recently, but not yet sufficiently prominent is the recognition of the influence of defective hearing in our educational program.

Generally speaking, the importance of hearing defects has not been recognized by local educators, public health authorities, or lay groups. The recent establishment of two full-time state positions, one in public health and one in education, shows definite recognition on the state level, and indirectly recognition by the layman regarding the significance of hearing losses in school children. However, the gap between the hard-of-hearing individual, who personally knows the problems, and those working from the state department is still very wide. General recognition of hearing defects has not yet been developed. This is evidenced by the scarcity of regular and systematic hearing test programs, the dearth of special education classes for hard-of-hearing children, and the lack of cooperation of service clubs and other groups that could assist deserving cases.

The group in mind here is not the deaf, or practically deaf. I refer to children with defective hearing who are enrolled in the public schools. These children have language and speech adequate for normal conversation, and are therefore not suspected of having a hearing loss. They have difficulty communicating, just as we have difficulty understanding conversation over a poor telephone connection. They hear, but with varying degrees of difficulty.

Reliable studies have found 5 per cent of the school population to have defective hearing and 1 per cent of a school population to have auditory losses which are handicapping. This 1 per cent is not a large proportion, but when estimated on the entire school population, becomes significant. California having, therefore, about 12,000 children with hearing handicaps. At the present only about one-sixth of this group is recognized and given adequate special education. Superintendents, teachers, teacher-training institutions, public health departments, and parents alike do not recognize the significance of hearing losses in these children. Awareness of this group, therefore, must be developed in proper authorities and groups.

Customary teaching procedures do not suffice for hard of hearing children. If the techniques used in the average classroom were satisfactory, we would not find three times as many children with hearing defects as normal hearing children, repeating grades. Here in California, there are some 12,000 children with hearing handicaps who are being exposed to methods of teaching developed on the basis of normal audition.

Hard of hearing children can be successfully taught in the regular classroom by a regularly trained teacher if she is aware of auditory defects, if she recognizes traits of hearing loss, if she understands the significance of a hearing loss in a child's learning process, and if she knows how to apply special methods for children with poor hearing to the regular teaching procedures.

Teachers who are aware of hearing defects will recognize any of the following symptoms to be suggestive of a hearing loss.

A. Speech

1. Substitution of sounds. Common errors to be found:

t for k	ion for sh
s for z	long e for short i
k for sk	long e for short e
ts for s	

2. Omission of sounds—chiefly finals

3. Careless and inaccurate production of all sounds

B. Voice

1. Abnormally high pitched
2. Very soft
3. Dull, metallic quality (The severity and duration of hearing loss directly affects the voice quality.)
4. Harsh or rasping quality

C. Physical Symptoms

1. Turning the head to catch sounds with the better ear
2. Frowning or straining forward to hear voices
3. Watching the lips of speakers rather than their eyes (A child with a hearing defect will watch the teacher's face during a class explanation rather than the words or example being written on the blackboard.)
4. Earache, discharge from the ear, cotton in the ear, soreness, buzzing sensation in the head, or a "blocked" feeling
5. Frequent and severe cold conditions
6. Mouth breathers (Abnormal growth of adenoidal tissue may result in poor ventilation.)
7. Extreme fatigue early in the day
8. Sudden change in physical condition, particularly after illness
9. Inattention, listlessness, failure to respond to questions, frequent requests for instructions to be repeated

D. Personality

1. Great change in attitudes and achievement after illness
2. Frequent nervousness and irritation over minor details
3. Lack of confidence
4. Evidence of uncertainty and confusion
5. Extreme anti-social behavior
6. Extreme introversion
7. Socially unresponsive

E. Retardation

Teachers should understand that hard of hearing children are average in ability to learn and originally are normal personalities. It is when the

hearing loss is not recognized that this group becomes social, psychological and educational problems.

The following modifications can be made in teaching practices with great benefit to hard of hearing children.

A. Physical allowances for child

1. Seat the individual near the front of the room
2. Ascertain the fact that his better ear is near you
3. Be sure there is a good light on your face to aid him in reading your lip movements and facial expressions
4. Allow freedom of movement, particularly during class discussion (Children may wish to turn in their seat to face the individual speaking.)
5. If a child wears a hearing aid, obtain and study informative material on hearing aids in the classroom.
6. Be sure you personally
 - a. speak naturally
 - b. use a normal tone and rhythm
 - c. do not exaggerate
 - d. use complete sentences
 - e. re-word or re-phrase commands or requests not understood
 - f. shape all speech sounds completely (Fully shaped vowels and clearly articulated consonants are of great assistance to a lip-reader.)
 - g. have an expressive face. (Children read your expression as well as your lips.)

B. Psychological Attitudes

1. Expect normal behavior—neither protect nor push.
2. Develop a good relationship with these children. Be interested in their problems—which are sometimes your problems in the classroom. Know what has caused the hearing defect. Learn how they feel toward their hearing loss. This will enable you to more intelligently help these children adjust to their problems, whether they be social or educational.
3. Develop a similar understanding in the normal hearing classmates. Encourage good speech habits with them also.
4. Assure the child he will not be reprimanded should he fail to hear his name called. (This of course does not apply when seated within his hearing range.)
5. Create opportunities for successful experiences, particularly during the period of early adjustment to a hearing loss.

C. Educational procedure adjustments

1. Classroom techniques

- a. Be sure the child understands the subject matter being discussed. If clarification is not made at the beginning of a lesson, it may be some time before the child discovers or can lip-read the general topic of discussion.
- b. Explanations made at the blackboard are frequently difficult for children who are depending in some degree on lip-reading. If you face the blackboard while giving the lesson, these pupils will either have to ask for the

instructions to be repeated or lose the entire lesson. Try always to face the class when giving explanations or new material.

- c. Prepare a hard-of-hearing child for a new lesson by giving him any new vocabulary to be used in the lesson.
- d. Spelling dictation tests are sometimes difficult for these children. Many words look alike when lip movements are the only clue. For instance, s and z are identical on the lips. Context clues, therefore, are essential for children with hearing defects.
- e. Reading techniques for hard-of-hearing children should emphasize more phonic than look-and-say methods.

The emphasis so far in this talk has been on the importance of the classroom teacher understanding the auditory ability of her pupils. This is, of course, fundamental to a program in special education for children with impaired hearing. However, some children require more than classroom assistance, as a solution to their educational and physical problems. This has been indicated by the reference to lip-reading and hearing aids.

What are the ramifications of a special education program for children with handicapping auditory defects? The answer lies in the individual needs of each pupil. It could include any or all of the following.

- A. Any hearing defective pupil must have the classroom teacher's understanding of his particular problem before there can be complete and satisfactory school adjustment of the pupil.
- B. Adequate seating in the classroom may suffice for many children who have slight losses.
- C. Lip-reading instruction is recommended for many children. Lip-reading aids the interpretation of partially heard sounds. Ewing and Ewing state "the successful combination of lip-reading and hearing results in,
 1. apparent improvement of hearing
 2. individuals suffer less mental fatigue
 3. direct personality benefits result from positive mental stimulus."
- D. Lip-reading instruction alone is not sufficient for children who have developed speech and voice defects as a result of hearing losses. Such pupils should have speech correction and voice training.
- E. If a child has considerable loss in hearing and can benefit from using a hearing aid, then he must have instruction in its use. Frequently, if the loss has existed for some time, unwise use of a hearing aid will cause nervousness, dislike for an instrument that can be very helpful. Children who have not heard for a period of months or years, do not recognize immediately, sounds once familiar to them. They must learn to interpret, into meaningful patterns, what comes to them at first as noise and confusion.
- F. Some children have such severe losses, that it is impossible for them to maintain average achievement in the regular classroom. They require instruction in a separate class, where they can have lip-reading, speech correction, voice training and auricular training daily, rather than once or twice a week. These special classes should

be held in the regular public schools. The pupils enrolled in such classes have varying degrees of hearing ability and speech. Association with normal hearing students and constant exposure to normal speech patterns, helps them maintain the speech, language and hearing they still possess.

- G. All of these children, whether their losses are great or small, should have the benefits of a good counseling program. These children must face their own problems. They should not, however, let the hearing loss assume a greater place in their lives than is warranted. They have problems, granted, but they *can* be successfully overcome. Severely hard-of-hearing children have completed, with good grades, elementary, secondary and college training with the aid of lip-reading and hearing aids. Handicaps do exist. But when they are recognized, and studied, a solution is usually available. The earlier such understanding comes to hard-of-hearing persons, the more easily the problems are met. Classroom teachers, lip-reading teachers, counselors, all have a place in assisting these children to find themselves, and to conquer their individual problems, according to their physical capacity, capabilities and interests.

The importance of a hearing defect on an individual's educability is being realized by progressive administrators. Public health authorities are becoming cognizant of the preventative program which can be planned so that educational and social problems are never allowed to develop. A program of early detection, medical service and special education can, and will turn potential problem children into well adjusted individuals.

HOW WELL DO THEY HEAR?

*Mrs. Kathryn J. Stasney,
Director of Speech Correction, Alhambra City Schools*

The purpose of this report is two fold: first to show, if possible, the need for early detection of even slight hearing losses; and second, to describe the use of acoustical training with children having normal auditory acuity as well as those having even small hearing losses. Much valuable material is to be found in the Volta Review on the subject of acoustical training for the deaf and the severely hard of hearing. A list of recent issues with particularly fine articles on this subject is given at the end of this report.

All of the children listed on the following chart possess normal or above average intelligence and were selected solely because of a parent's or

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teacher's complaint that the child "didn't pay attention," "just day dreamed" or "didn't want to hear sometimes." It is significant that only three of the seventeen were found to possess normal hearing yet in only one case, number fifteen, was there a genuine awareness of the child's lessened auditory acuity—and in that case nothing had been done to alleviate the handicap of approximately fifty decibels loss in each ear.

Obviously seventeen cases are far too few on which to base any conclusions, yet it would seem reasonable to note a few general tendencies that appear on the chart. First—and perhaps that most significant is the progressively poorer school and social adjustment paralleling continued "undetected hearing losses" however slight. Among the five pre-school children two exhibit very good personality adjustment while each of the three having the double handicap of a cleft palate and a hearing loss exhibits excellent emotional balance and a happy disposition. It is only fair to emphasize the splendid homes in which these children are being raised. Each one knows he is loved, *wanted and secure*.

Going on to the primary group we find problems of social adjustment and emotional instability arising almost immediately upon entry into school life. Two of the nine studied are found to have satisfactory school and social adjustment. Again, these two are from homes where there is a minimum of tension and an easy-going happy family life. However even these two are finding school—particularly the tool subjects—difficult.

The remaining seven exhibit social adjustments ranging from "fair" to pre-delinquent and they reveal similar inadequacies in their school work. Their home environments vary from well above average to very undesirable in the case of the child whose behavior is verging on delinquency.

Cases 12-13 & 14 present a different but no less significant problem. All three are reported to have normal hearing according to standard tests yet they are the "worst offenders" charged with seemingly volitional auditory disability. Because that wastebasket term "psychogenically hard of hearing" is used as an alibi for failure adequately to check hearing and to compensate for real losses I hesitate to use it, yet these cases of normal ears not hearing do crop up in every classroom, so let's consider them for a moment.

Home visits, parent conferences and a consideration of their case histories reveal one thing these three children have in common. They have not been listened to—sympathetically, sincerely and calmly. The children have not learned to listen because they have not experienced the joy of being "listened to." Why?

One child has an over-protecting, over-directing perfectionist mother who never hears any voice but her own. The second child has been completely rejected by an emotionally unstable nagging mother who has finally put him into a boarding home.

The third has never been able to make his little voice heard above those of his quarrelling parents and fault finding grandmother. Obviously these children have "closed their ears in selfdefense."

Each of these children was noticeably resistant to the listening games at the beginning of the training period, far more so than children with genuine hearing losses, yet each one has made good progress in "learning to listen." They were given a great deal of recognition and status in the

speech-hearing classes and their regular classroom teachers have put a premium on "listening."

The use of audiometric testing and aural training for children of this type is invaluable. Having established their normal hearing we are challenged to find the causes of their unwillingness to hear—and to remove those causes if possible through parent education. Unfortunately this is not always possible but it is worth trying and the classroom teacher can often do miracles just by *listening* to these children and loving them.

The remaining cases (15-16-17) all seventh graders have become genuine problems both educationally and socially. Here again we have widely varying home influences and hearing losses. Had the parents and teachers of these children known their problems and tried to remedy them even five years ago the picture might be entirely different today.

Consider for a moment Case Number Sixteen. Prior to treatment by an otologist (at the school's insistence) this child had a severe loss of acuity in each ear. Since treatment his hearing is almost normal—but the old habits of inattention, "laziness," aggressions, day dreaming and the expectancy of failure are deeply rooted. There is still a long hard road of re-education in habits and attitudes ahead of this child.

Perhaps some of you can explain a new problem that is appearing in the case (#15) of the boy who has been fitted with a hearing aid. When he relied entirely upon lip reading he made an effort to understand his teacher but since being fitted with the aid, according to the same teacher he "pays no attention at all." His speech is normal as his hearing loss occurred after speech was well established. He says the hearing aid is not uncomfortable and that it "really helps him hear and understand," yet his school work is of poorer quality than when he relied upon lip reading for most of his "hearing." Perhaps "learning to hear again" is a very great task for this child who was already burdened with anti-social behavior, failing school work and emotional instability. We can only wonder if many of his present problems would not have been prevented by an early diagnosis of his hearing loss and remedial procedures at the time of diagnosis.

Let us turn our attention for a few minutes to the techniques and results of this learning-to-listen program. It began as a part of the auditory discrimination practice in connection with speech correction and speech improvement lessons.

Because for many children, perhaps all whose speech is not quite normal,—anything related to speech sounds is associated with unpleasantness and insecurity it seemed advisable to begin with brief periods of listening to "outside sounds." Trains, trucks, whistles, bells, birds, dogs—anything that could be heard was listened for eagerly. Sometimes the sounds were imitated during the speech lesson. Then followed listening games in which nonsense syllables were used closely related to the speech lesson for that period.

Much use was made of whispering nursery rhymes, poems and short sentences. This seemed to help children with slight losses in the high frequencies as they learned to watch mouth movements for voiceless consonants particularly.

Classroom teachers made an invaluable contribution to this program of speech-hearing improvement by observing the following rules:

First, be sure to face the light so that your face is fully visible whenever speaking. Second, seat the child with a hearing loss as close to the center front as possible but be careful that he is not directly under you—sitting in the desk against which you are apt to lean while making assignments or showing materials, etc. Allowance must be made for his being able to watch your speech movements with ease. Third, avoid hurried and slurred speech. Good enunciation is doubly important as a good speech pattern and for its carrying quality to the child with a hearing loss. Fourth, attempt to compensate if possible for regional hearing losses through voice inflection or change of pitch. A boy with an appreciable loss in the lower speech range showed far greater interest and comprehension when his teacher whose voice was very low pitched deliberately raised her speaking range well over five tones. Last, avoid talking while writing on the blackboard or when reading or writing so that your head is bent over a book or desk.

These are seemingly simple even trivial things but they mean much to the child who "can't quite understand what the teacher says."

The most noticeable outcomes of this training were increased discrimination for correct sound production and improved enunciation. In addition many teachers have commented that attention to spoken directions is greatly improved.

It would be inaccurate to give the speech - listening lessons more than a small share of the credit for the desirable results particularly in the case of the children who didn't want to hear mothers' and teachers' voices. Many more hours were spent on a mental hygiene program for their home and school lives than were spent just on aural and oral re-education. This is rightfully so for no program of pupil training in the physical areas can dispense with a recognition of the psychological factors involved.

In conclusion may I say that small though these beginnings have been, approximately one hour per week per pupil, they have proved their worth and do point the great need for scientifically determining how much hearing every small school child has and for a constant and active interest in how well he is using that hearing throughout his school life.

RECENT ARTICLES ON ACOUSTICAL TRAINING

Appearing in the

VOLTA REVIEW: Volta Bureau, Washington, D. C.

Sept. 1941	Jan. 1944
Feb. 1942	June 1944
Oct. 1942	Aug. 1944
Mar. 1943	Jan. 1945

PRE SCHOOL GROUP

Case 1— A boy aged 4 years and 8 months

Hearing loss in decibels—not tested but appreciable in low frequencies prior to medical care

Speech disability—confused m, n, d, b, a, e

Social adjustment—good

Home and environmental factors influencing adjustment—very good

Medical examination, therapy—accumulated wax and foreign body removed

Progress in speech at end of ½ year oral and aural training—immediate improvement

Changes in school and social adjustment have not been recorded as no aural or speech training has been given as yet

- Case 2—** A boy aged 3 years and 6 months
Hearing loss in decibels—"Slight" M. D.
Speech disability—repaired cleft palate with characteristic cleft-palate speech
Social adjustment—very good emotional stability. Shy
Home and environmental factors influencing adjustment—excellent
Medical examination, therapy—checked by M. D. regularly
Progress in speech at end of ½ year of oral and aural training—slow but steady improvement
Changes in social adjustment—increased poise
Listening habits—improved listening and sound imitation
- Case 3—** A girl aged 4 years and 9 months
Hearing loss in decibels—40 R, 55 L prior to medical treatment
Speech disability—repaired cleft palate, characteristic cleft palate speech
Social adjustment—excellent
Home and environmental factors influencing adjustment—ideal in every way
Medical examination, therapy—Inflation and medication
Progress in speech at end of ½ year oral and aural training—marked improvement
Listening habits—improved and sound imitation
- Case 4—** A girl aged 4 years and 11 months
Hearing loss in decibels—15 R, 10 L
Speech disability—repaired cleft palate characteristic of cleft-palate speech
Social adjustment—excellent
Home and environmental factors influencing adjustment—good
Medical examination, therapy—checked by M. D. regularly
Progress in speech at end of ½ year of oral and aural training—phenomenal improvement
Listening habits—improved listening and sound imitation
- Case 5—** A girl of 5 years
Hearing loss in decibels—0 R, 30 L
Speech disability—many vowel confusions, infantile substitutions
Social adjustment—excellent
Home and environmental factors influencing adjustment—very good
Medical examination, therapy—checked by M. D. regularly
Progress in Speech at end of ½ year of oral and aural training—good progress
Listening habits—improved listening and sound imitation
- PRIMARY GROUP**
- Case 6—** A boy aged 7 years
Hearing loss in decibels—15 R, 15 L
School adjustment—fair
Speech disability—slight
Reading progress—very poor
Social adjustment—fair
Home and environmental factors influencing adjustment—good
Medical examination, therapy—none
Progress in speech at the end of ½ year of oral and aural training—excellent
Changes in school adjustment—improved
Changes in social adjustment—improved
Listening habits—excellent progress
- Case 7—** A boy aged 8 years and 5 months
Hearing loss in decibels—15 R, 21 L
School adjustment—very poor
Speech disability—slight
Reading progress—very poor
Social adjustment—very poor
Home and environmental factors influencing adjustment—undesirable parent-child relationship
Medical examination, therapy—"ears washed out"
Progress in speech at the end of ½ year of oral and aural training—improved enunciation
Changes in school adjustment—?
Changes in social adjustment—?
Listening habits—improved

Case 8— A boy aged 7 years

Hearing loss in decibels—20 R, 20 L

School adjustment—fair

Speech disability—slight

Reading progress—very poor

Social adjustment—good

Home and environmental factors influencing adjustment—good

Medical examination, therapy—none

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—none

Changes in school adjustment—none

Changes in social adjustment—slight improvement

Listening habits—improved

Case 9— A boy aged 6 years and 5 months

Hearing loss in decibels—25 R, 30 L

School adjustment—fair

Speech disability—Stutter articulation severe

Reading progress—good

Social adjustment—fair

Home and environmental factors influencing adjustment—good but too strict and adult standards

Medical examination, therapy—none

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—slow progress

Changes in school adjustment—happier

Changes in social adjustment—improved; tendencies to stutter have disappeared with improved parent attitudes and relaxing of too rigid standards and demands in home.

Listening habits—greatly improved

Case 10—A boy aged 6 years

Hearing loss in decibels—20 R, 20 L

School adjustment—poor

Speech disability—slight

Reading progress—poor

Social adjustment—poor

Home and environmental factors influencing adjustment—very poor

Medical examination, therapy—none

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—slight

Changes in school adjustment—slightly improved

Changes in social adjustment—good progress

Listening habits—improved

Case 11—A boy aged 6 years

Hearing loss in decibels—10 R, 15 L

School adjustment—poor

Speech disability—severe

Reading progress—poor

Social adjustment—poor

Home and environmental factors influencing adjustment—very good

Medical examination, therapy—Rx improved general health

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—fair

Changes in school adjustment—slightly improved

Changes in social adjustment—?

Listening habits—improved

Case 12—A boy aged 7 years

Hearing loss in decibels—0

School adjustment—very poor

Speech disability—severe

Reading progress—poor

Social adjustment—very poor

Home and environmental factors influencing adjustment—over protection and over direction

Medical examination, therapy—none

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—excellent progress

*Changes in school adjustment—greatly improved
Changes in social adjustment—greatly improved
Listening habits—excellent progress*

Case 13—A boy aged 7 years

*Hearing loss in decibels—0
School adjustment—very poor
Speech disability—severe
Reading progress—poor*

Social adjustment—very poor

Home and environmental factors influencing adjustment—lack of control

Medical examination, therapy—none

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—slow progress

Changes in school adjustment—good progress

Changes in social adjustment—fair progress

Listening habits—good progress

Case 14—A boy aged 8 years

*Hearing loss in decibels—0
School adjustment—very poor
Speech disability—slight
Reading progress—fair*

Social adjustment—pre-delinquent

Home and environmental factors influencing adjustment—very unfavorable

Medical examination, therapy—none

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—better enunciation

Changes in school adjustment—?

Changes in social adjustment—fair progress

Listening habits—good progress

UPPER GRADE GROUP

Case 15—A boy aged 13 years

Hearing loss in decibels—50 R, 50 L

School adjustment—very poor

Speech disability—none

Reading progress—very weak

Social adjustment—pre-delinquent

Home and environmental factors influencing adjustment—broken home in early childhood, excellent home last 8 years

Medical examination, therapy—X-ray, hearing aid

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—none

Changes in school adjustment—regression

Changes in social adjustment—none

Listening habits—regression

Case 16—A boy aged 13 years

Hearing loss in decibels—27 R, 15 L

School adjustment—very poor

Speech disability—sluggish

Reading progress—very weak

Social adjustment—very poor

Home and environmental factors influencing adjustment—ignorance, little control

Medical examination, therapy—inflation, washing out of ears

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—slightly improved articulation

Changes in school adjustment—slight improvement

Changes in social adjustment—slight improvement

Listening habits—marked improvement

Case 17—A boy aged 12

Hearing loss in decibels—10 R, 10 L

School adjustment—very poor

Speech disability—stutterer

Reading progress—very weak

Social adjustment—completely withdrawn

Home and environmental factors influencing adjustment—high standards but tensions and instability

Medical examination, therapy—none

Progress in speech at the end of $\frac{1}{2}$ year of oral and aural training—none

Changes in school adjustment—none, but 2 months training only

Changes in social adjustment—slight improvement

Listening habits—none

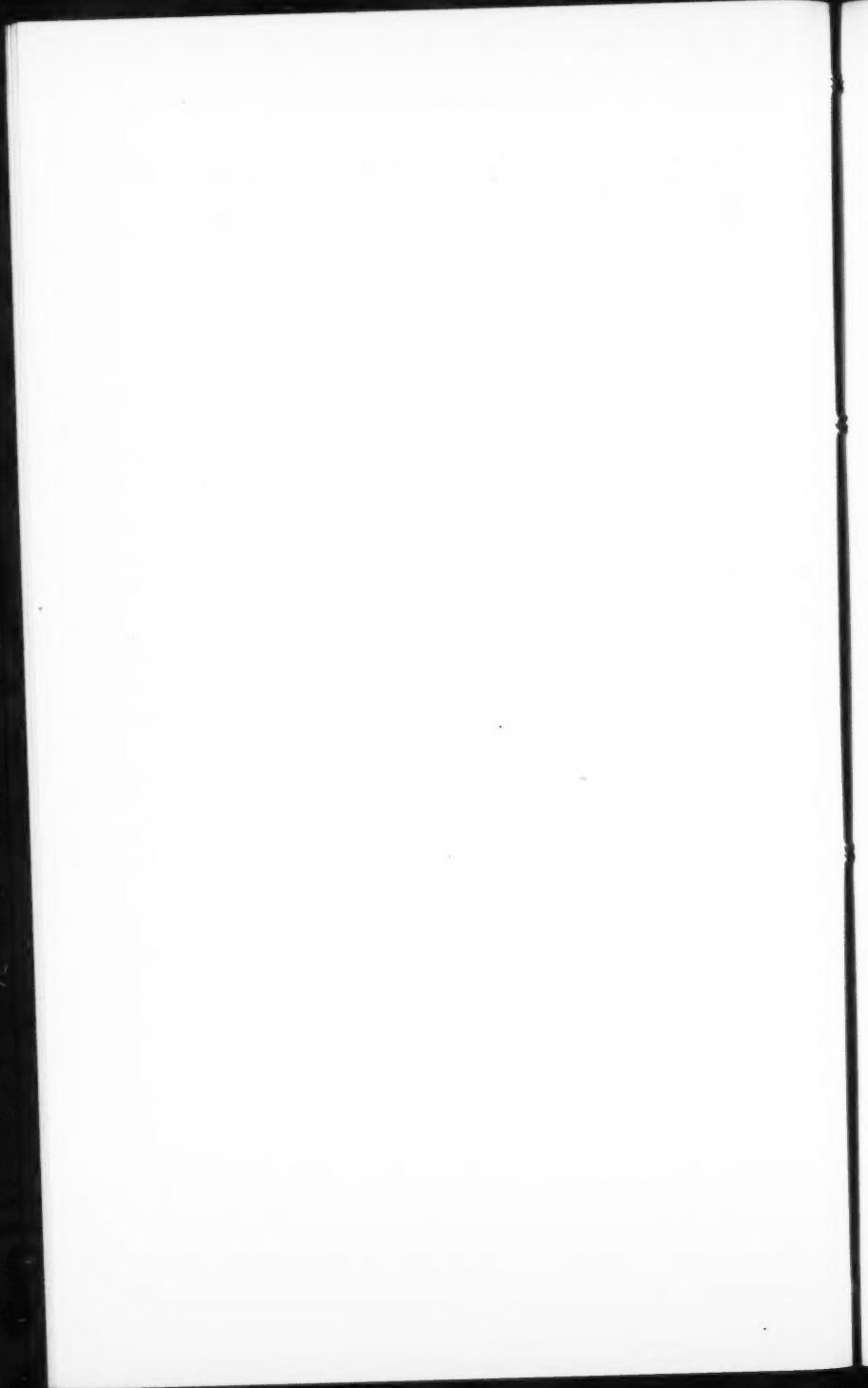
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Division V

Bi-Lingual Factors Affecting Reading and Learning

"Certainly, the people of the United States have arrived at the stage in social maturity where the terms "American" is broad enough to include the preservation of cultural elements from the national background of the varied groups which make up the population of this country."

Harold E. Davis, Office of the Coordinator of
Inter-American Affairs

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TEACHING READING TO ADULT ILLITERATES WITH FILMS

By Mildred J. Wiese

Bureau for Intercultural Education,

Formerly, Technical Advisor for the Education Division, Office of
the Coordinator of Inter-American Affairs, at Walt Disney Studios

Learning to read presents many of the same problems to adult illiterates that it does to children who are beginners in this essential art of civilization. The adults without reading skills, however, are vastly different. The environment in which they live, their own daily problems and routines, and their needs for reading parallel in almost no ways the environment, lives and needs of little children in a society geared to literacy and dependent upon the printed word for its functioning.

Most adult illiterates have made their adjustments to life in a society which has no use for daily reading, and which provides little opportunity for its practice even when the skill has been laboriously achieved by the rare individual with exceptional ambition or opportunity. Two-thirds of the people of this world live in such an environment. Probably 75% of Latin-America is illiterate—certainly more if we do not include the larger cities. When we talk about "one world" linked together by the technological wonders men's minds have created, and "one world" in which people live together democratically, we are also talking about a world in which most of the people cannot read, in which most of the people learn what they know by word of mouth, knowledge passed from father to son, from wise man to community, from village to village . . . today in 1945. These people are not all stupid. They no doubt have among them as many brilliant minds per thousand as has the literate world. When individuals among them move into an environment demanding reading skills they learn readily—sometimes with amazing rapidity.

Our shrinking world is creating many new and difficult problems, problems which would have arisen in time without the shattering effects of war, but which press urgently now that the war has revealed them in a blinding light. World literacy is only one—part of one of the big problems which we hope the International Office of Education will work on. This paper is concerned with one of the tools being forged in an effort to speed up the solution of that problem. We must examine that tool in terms of the job it is expected to do. The whole problem demands much more than tools to teach reading skills. The need for such skills must be made strongly felt by those we would teach. This is a vast and urgent educational problem, closely tied in to others already being faced by many agencies working throughout the world for human betterment. As teachers of reading we may think of this as "reading readiness." As adult educators we may know it as a desire to learn. Once thoroughly aroused, it has the dynamic power to overcome all obstacles. Without it our efforts are largely wasted. Reading materials dealing with matters of importance and interest

to those who must laboriously struggle to understand them will have to be created; adult materials, carefully graded, authentic in content, interesting in style, attractively illustrated: wall charts, pamphlets, books, newspapers. This paper is only incidentally concerned with these matters, though the teaching films we have developed are based on a consideration of all of them. The films I will show you do not pretend to solve them all.

These teaching films were created to demonstrate whether or not this medium could facilitate and speed up the teaching of reading skills to Spanish-speaking adult illiterates in Latin America where shortages of teachers, schools, materials and money and the size of the problem present such great difficulties that the usually effective methods cannot be used. The films are not substitutes for teachers, though many have said they can be used effectively, as aid to teachers of limited training and experience. They do not replace printed materials. They are supplemented by leaflets, charts, and pamphlets, and the entire program planned anticipated a gradually increasing dependence upon printed materials as students are able to use them. The four reading films made do not constitute a complete reading program. They are but samples of what might be done, a demonstration tool made to be tested and criticized. (We welcome your suggestions and criticisms and cover particularly any written comments you care to make.)

The experimental film program consists of two health films and four reading films. The two health films are designed to teach basic health facts on the human body and bacteria as a cause of disease in an interesting and entertaining way to adult illiterates who have had no schooling whatsoever. They were developed along with the reading films although they are primarily intended for use in the health education program of the Office of the Coordinator of Inter-American Affairs. They serve as a reading readiness device in the reading program providing the background of information and the repetition of oral vocabulary necessary for the reading lessons.

For each health film two reading films were prepared. These are the first four reading lessons for adults whose native language is Spanish and who cannot read at all. They translate into animated film form widely tested and successful methods of teaching reading and embody well tried and proved successful techniques of adult elementary education. The only new contribution they may be said to make is in putting these together on the screen. This involved highly technical problems of creation and production masterfully handled by the genius and skill of the Walt Disney artists and craftsmen and of Mr. Disney himself.

The first reading film picks up the Story of Jose from the health film "The Human Body" and recalls that Jose is a healthy young man because he has learned how to take good care of his most valuable possession: his own body. By means of pictures, narration, and phrases and sentences it introduces the first reading lesson:

Jose

Jose es un joven.

(Jose is a young man.)

Jose es sano.

(Jose is healthy.)

Jose es un joven sano.

(Jose is a healthy young man.)

The narrator invites students to join the screen chorus in reading this

lesson. Then, through ten minutes of entertaining drill he shows them how pictures help recall ideas read, how sentences are separated into words, how words differ in total configuration and how they may be recognized by noting individual differences "as we learn to recognize our friends." Exercises provide practice in reading the words in new combinations as "es Jose" and "un joven es sano." The student is reminded that he is reading when he is able thus to recognize ideas in print and that he has mastered the beginning task of learning to read and by persistence and continued attendance at similarly painless lessons he can learn to read anything he desires. Each student is given a printed sheet with the lesson he has learned to read.

The second reading lesson builds upon the first, after reviewing it. It recalls from the health film the importance of good food for good health and the fact that eating well means eating foods that contribute to health. The new lesson includes these sentences:

- | | |
|-----------------------|-----------------------------|
| Este joven es Jose. | (This young man is Jose.) |
| Jose come. | (Jose eats.) |
| Este joven come. | (This young man eats.) |
| Este joven come bien. | (This young man eats well.) |

The three italicized words are the only new words introduced in this lesson. This ten-minute film adds new devices for drill and a new type of exercise which reappears in the printed pamphlet to be used with the screen lesson.

The third and fourth reading lessons are based on the health film "The Invisible Enemy." This enemy is disease, caused by bacteria, spread by flies, mosquitoes and contaminated water. It introduces a new comic character, Ramon, who does not know about his invisible enemy and who drinks contaminated water and becomes ill. These reading lessons also build upon the first two, adding four new words in the third lesson "Ramon toma agua mala" (Ramon drinks bad water) and four in the fourth lesson: "Esta" (is), "enfermo" (sick), "no" (no), "buena" (good).

All four reading lessons together teach but sixteen different words. They use these words in many combinations to tell meaningful stories reinforcing the lessons of the health films. Together in pamphlet form they provide an encouraging evidence of accomplishment in reading for the adult to whom such skills seem forbiddingly difficult. Each lesson adds some new skill essential to reading (as well as new words); each supplies a new type of exercise which gives the teacher clues for further drill. The films are intended to be used repeatedly as needed over a period of time for exercise and review.

These films were tested with adult illiterates under carefully controlled conditions without the use of teachers in this country and Latin America. They have successfully taught these lessons when students were given much less help than they would normally get. Latin American education particularly has received them with enthusiasm and persons in charge of the experiment were requested to give further training to teachers in the methods used. Wide publicity was given the project in Honduras, Ecuador, and Mexico and great hope is expressed editorially for the success and extension of this method to overcome one of the greatest obstacles to freedom in the Western Hemisphere.

EDUCATION PROGRAM FOR SPANISH-SPEAKING AMERICANS*

By Harold E. Davis

Director, Division of Education and Teacher Aids
Office of the Coordinator of Inter-American Affairs

Approximately two and one-half million Americans of Spanish-speech background and chiefly of Mexican extraction live in Southwestern United States, one-third of them in the State of Texas alone. For various reasons, they present an important educational problem in our national life which has been receiving increasing attention from educators during recent years.

Three major sources of this population may be noted. Many of them are direct descendants of Spanish colonists of the 17th and 18th centuries. Others are the results of the partial assimilation of Indian populations of the area by the Spanish. By far the larger part, however, have recently come from Mexico to supply the increasing demand for labor in the orange and lemon groves, the beet fields, the cotton fields, and the mines and railroads.

Under the Spanish colonial system, society was dominated by a small group of large landholders. An economy largely pastoral lent itself to a patriarchal and feudal structure. Traces of this organization of society remain but upon it have been superimposed new divisions derived from North American influences, migration, and settlement in the 19th century, and from the new developments in agriculture, mining, and industry in the 20th century. Another influence has been the large immigration from Mexico in late years to supply the labor needs of these new enterprises.

The Hispanic cultural heritage, whether derived through the older cultural settlements or from more recent direct contact with Mexico, remains an important part of the life of these people. Spanish legal concepts are widespread, the Catholic Church plays a major role in their religious life, the Spanish language is employed at home even by those who have learned to use English for business and other purposes. Their music is like that across the border—*corridos*, *pastorales*, and other forms of folk music dear to the heart of the music-loving Mexican.

The presence of the Spanish-speaking population and this culture within our borders is a constant reminder of the influence which Spanish America has exerted on the development of life and culture in the United States, upon our language, our agriculture, our legal structure, our architecture, as well as upon our political history.

Although part of the population antedates the presence of North Americans in the area, it is now definitely in the minority. Not until recent years, however, has it given any clear indication of being conscious of itself as a minority group.

This may be due in part to the fact that much of the population came to the United States rather recently as immigrants, many of them with the

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familiar psychology of our other immigrant groups, whose dominant purpose has been to adopt our way of life as quickly as possible. Nevertheless, in recent years several organizations have begun to give active expression to feelings of group consciousness. These organizations have usually been fraternal and mutual benefit organizations. Among the most widespread and influential are the *Alianza Hispano-America*, known popularly as the *Alianza*, the League of United Latin American Citizens, (LULAC) and the League of Loyal Latin Americans (LLLA).

The growth of such organizations presents itself as a problem in community organization and relationships in the areas of Texas, New Mexico, Arizona, and California, where they have been particularly active.

In many ways the problem of adjustment is like that faced in the cities of the Midwest and Northeast in working out proper community relationships with organized nationality groups. In the rural Southwest, however, the problem has certain obvious special difficulties, due chiefly to the rural character of most of the population and its proximity to the Mexican border. Yet it is basically the same problem—that of making such organizations a valuable and useful part of the cultural pattern and preventing them from becoming disruptive or divisive factors.

There can be little question about the ultimate objective sought for this Spanish-speaking group. They either are, or intend to become, United States citizens and, broadly speaking, our purpose must be to assimilate them into the pattern of living and the social structure of the United States. As quickly as possible they should be brought to the status of full and complete participation in the communities of which they are a part. This calls for important social and psychological, as well as economic adjustments.

Nor should it be conceived in terms of a narrow program of "Americanization" such as ruled our thinking during the last war. Americanization must have a concept of inter-Americanism in this case.

Certainly, the people of the United States have arrived at the stage in social maturity where the term "American" is broad enough to include the preservation of cultural elements from the national background of the varied groups which make up the population of this country. Complete cultural assimilation may eventually eliminate bilingualism. But meanwhile many considerations urge the desirability of the study of Spanish, by English-speaking as well as Spanish-speaking groups in a region like the United States Southwest where two cultures are meeting.

Release of the tensions resulting in social discrimination is another of the obvious objectives. Elements of unconscious social discrimination against the Spanish-speaking people are largely derived from differences in economic status. A better understanding of what race is and is not must be another important objective of the educational program. Equally important is the need to overcome the misconceptions on the part of some United States residents about the peoples of the other Americas.

Moreover, several attitudes on the part of Spanish-speaking groups themselves must be changed. Their feelings of hostility, growing out of the Mexican War, the Mexican Revolution and attendant border disorders need to be replaced with more receptive and cooperative attitudes. In the past these factors have led the Spanish-speaking groups to retire within themselves—psychologically and culturally. Such cultural resistance can be over-

come partly through the schools, but it is also the major problem of adult and community education.

From the economic standpoint, their problem is similar to that of other underprivileged groups. The Spanish-speaking group is too largely a migratory laborer, a crop-sharing, and renting group. Too many of the land owners in the group practice a bare subsistence agriculture.

With proper occupational orientation, the latent productive capacity of their labor can be developed to a stage of increased efficiency through familiarity with the tools of a technological age. The first step, however, is to increase their productivity and usefulness at their present economic level by gradual improvement of agricultural systems, the development of varied handicrafts, and improvements in home life leading to the development of higher standards of living.

Education, unaccompanied by measures to improve social and economic conditions, is not sufficient. We know, however, that education can go a long way toward overcoming feelings of cultural inferiority and psychological insecurity as well as toward increasing social and economic efficiency.

Proper use of the Hispanic-American cultural background of these people should receive the careful attention of educators of the area. Already children of school age have begun to revolt against traditional customs. This is particularly true of families in the lower economic groups. It is less true among the more favored economic groups. The reaction of the younger generation is thoroughly understandable, a natural accompaniment of the process of assimilation. But a valuable cultural asset will be lost to the nation as a whole, if this Hispanic cultural background is not used properly for educational purposes. An important educational opportunity may likewise be lost at the same time.

Spanish-English bilingualism presents a major educational problem in the area. If the Spanish-speaking and English-speaking people of the community are to live and work together effectively, it goes without saying that they must communicate with each other efficiently.

It may be assumed that all Spanish-speaking children need special educational opportunities to learn English to the point where it can be used effectively. This is particularly important at the age of school entrance. The widespread retardation of Spanish-speaking children disclosed in the recent Texas survey is in large measure due to lack of proper language adjustment. Children of the Spanish-speaking group also need to acquire an appreciation and mastery of the language used by their parents and friends.

The Conference on Educational Problems in the Southwest held in Santa Fe, New Mexico, in 1943, recommended special attention to the problem of teaching English to Spanish-speaking children especially from the standpoint of its importance to the total education of the child. The Conference also urged attention to the problem of how much Spanish should be taught to English-speaking children.

Obviously, it is fantastic to think of making all of the people of this area bilingual. Nor is it clear, on the basis of our experience in this area, in Puerto Rico and elsewhere, whether a program of bilingual education is an advantage or a handicap in the education of the average school child.

Previous studies of Lloyd Tireman and Herschel Manuel and others are

far from conclusive on this point. Results of the recent administration of the Inter-American Tests by the American Council on Education, to children in Puerto Rico, Mexico, and Texas provide some evidence but further scientific work is needed before we can know where we really stand on this question.

There is a big problem of health education which the schools have scarcely begun to deal with at the proper social and economic level. It is particularly important that an educational approach through local environment be made in dealing with the problems of nutrition and health habits in the schools and with such problems as nutrition, child care, prenatal care, and the extension of medical services at the adult level.

The content of such programs needs to be studied carefully from the standpoint of their practicability, their relation to the customs and mores of the group and to the limited economic resources of the population. The complexities of the educational problems involved make it particularly desirable to have more experimental cooperative health and health education programs in the area similar to the one which has been carried out in the community of Taos, New Mexico.

Education should also play an important role in long-range occupational planning. Attention should be given to occupational adjustment in the elementary schools in most Spanish-speaking communities as long as the school life of the majority of the pupils is limited to the elementary grades. Development of agricultural skills through school programs is one of the chief ways to raise the living standards of the population. Yet the greatest single need is for opportunities which will direct part of the normal labor surplus of the area into technological fields. This is perhaps the best educational answer to the problem of excessive migratory labor among Spanish-speaking people.

Segregation is more serious in some areas than in others. In most cases it may be considered as unintentional and growing largely out of differences in economic status. It can be eliminated in the Southwest if approached intelligently, and it is being approached intelligently by many communities and educators. There have been many moves along this line during the past few years by public spirited community groups in the Southwest and a great deal of tension has been reduced.

The right kind of adult education of both Spanish-speaking and English-speaking groups and adequate programs of teacher education are paramount needs, of course, and the State of Texas is giving an example of what can be done. The cooperation of the Texas State Department of Education, the University of Texas, Governor Stevenson's Good Neighbor Commission and practically all the colleges and schools in the State has been enlisted in the effort.

An educational program of this kind calls for many new types of teaching materials in the fields of language, culture, health occupations, and community relationships. Educators in the Southwest have recognized the need for some time. Recently groups of teachers in workshops and individual educators in large numbers have turned seriously to the task of producing such materials.

Among the many centers where work of this kind has been going on may be mentioned especially the County and City of Los Angeles, Albu-

querque, and Las Vegas, New Mexico; San Marcos, San Antonio, Austin and El Paso, Texas. There is still serious need for better materials for teaching English to Spanish-speaking children, for teaching Spanish-American art, music, and handicrafts, and for occupational and health education in the schools. Perhaps the greatest need of all is for materials suitable for use in programs of adult education with both English and Spanish-speaking groups.

A small group of zealous teachers has come to realize the special challenge to teaching in these Spanish-speaking communities. During the past decade, experimental schools at Nambé and San José in New Mexico and currently the programs in operation in Pio Pico, California, Las Vegas, New Mexico, and San Marcos, Texas, have dramatized the opportunity.

Teacher training institutions throughout the Southwest have an important responsibility to lead their prospective teachers to see the opportunities for effective community leadership in the schools and to prepare their students adequately for the job. Teacher training workshops in Colorado, Arizona, California, New Mexico and Texas during the past two summers have provided inspiration and direction to a great many teachers along these lines.

Social and educational leadership is of paramount importance. Our Spanish-speaking population has suffered from lack of this leadership in the past, and development of latent capacities for leadership is one of the chief educational needs. In an effort to meet this need, the Institute of International Education, in cooperation with the Office of Inter-American Affairs, has initiated a program of fellowships for advanced students from our Spanish-speaking population who are preparing for educational and community leadership. This program is now in its third year. The recipients of the scholarships and fellowships return to their own communities after completing their preparation. Already they are in great demand for positions of community responsibility. It is hoped that universities and other private and voluntary agencies will supplement these scholarships and make possible a permanent program of this kind.

TEACHING SPANISH TO ELEMENTARY SCHOOL CHILDREN

*Martha Heap
Instructor, Claremont Summer Session*

We of the United States are proud of our independence, our individuality, our high standard of living. We seem at times smug in our self-sufficiency. As a nation we do not speak a language or languages other than English. As a new nation breaking away from "Old World" tradition

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and culture, there were justifications for our desire to be uni-lingual; but we are no longer a new nation struggling for existence, we are *the* great power of the world. The time is approaching rapidly when we must, in the interest of our own peace, prosperity and survival, speak the language of our immediate neighbors and of the more remote people who, by virtue of coming methods of communication and transportation will soon be "neighbors."

The present day world conflict has demonstrated in costly terms that the United States is no longer isolated. It has also intensified a desire and need for understanding and security among the American Republics. The rising generation, taking up the problems of a "small" world, will thank the alert educational system that will educate them in the language and customs of Latin America. This beginning with the Spanish language will lay a foundation for learning other foreign languages. It is imperative that our children understand the language and people with whom they are to cooperate and compete in a new world economy. In educating our children to the coming world responsibilities, we may well begin with the improvement of relationships with our Latin American Neighbors. This can best be accomplished by an extensive and intensive bi-lingual educational program to include every child of school age, kindergarten to the University.

Mrs. F. D. Roosevelt has said, "I am entirely convinced that one of the things that must be done, if we are going to develop the good neighbor policy satisfactorily, is to make the Spanish language the second language learned by every school child in this country. We elders had better do what we can, too, no matter how haltingly to learn this language spoken by so many people whom we must understand." I think we will all agree with Mrs. Roosevelt on this point. Not only are we interested in developing the good neighbor policy, but as educators we are concerned with what our children as individuals have to gain in learning Spanish and promoting the good neighbor policy.

In California where we meet the Latin American races frequently and where we can so readily visit our neighbors to the South, it is especially true that learning Spanish will be a distinct advantage to our children in their future Pan American relationships. As the Pan American Highway is completed and air and rail lanes are improved, travel and commerce in Central and South America will increase. The need for Spanish speaking North Americans will increase concomitantly.

My own experience with the Spanish language will help to illustrate the importance of learning and speaking a language during childhood and of continuing the learning process throughout the school years. I was raised on the border of Mexico, my friends, playmates and nursemaids were Mexican. I learned to speak their language before I learned English. In fact, I spoke English with a Spanish accent. I was the delight of the Mexican people, a fair-haired tot who could speak the language like a native. They loved to feed me, to entertain me, to take me to their churches and show me off to their friends; for I was as one of them and there was a mutual bond of love and admiration.

My Mexican friends had many short comings, as do we all, but they taught me a feeling for and appreciation of beauty I shall never forget. Their songs, dances, games, their religion reflected their gay and lovable

spirit, when they sang of love, you felt love; when they sang of their sorrows, and they had many, you wept for them; when they sang foolish rhymes, you laughed from inside as they did. Their dances were fast, rhythmical, intricate; their games were fantastic, enchanting and their religion was real and devout. To be invited to their church was an honor indeed, for only the sympathetic and understanding outsider was asked to witness their most sacred rites. Because I spoke their language I was privileged to look into their hearts.

I left my small town and came to Los Angeles. Soon I lost my knowledge of Spanish through lack of usage, though I retained my feeling for the people. When I returned for a visit, my Mexican friends wept to see me flounder in their language, lost to them forever. It was a greater loss to me, I have since learned.

Returning again to Los Angeles, I studied formal Spanish in High School and College. I did well, with my pronunciation and seeming knowledge; but I did not fool myself, the fluency and understanding was gone. Now instead of conversing freely and without thought, I had to stop and think in English—"Is this the right tense? The right verb? Maybe I'd better not try that expression, I may be wrong." I still thought in the Spanish language; but in retracing my steps I lost confidence and eventually ability to converse. I have not yet regained the fluency of my early youth. It is hard to explain what an integral part of you the language can become. Others I have known with similar experiences have had the same conflict of studying the written Spanish, having a minimum of conversational practice, and eventually losing the ability to converse freely.

I hope that in becoming personal I may express these thoughts for consideration—teaching Spanish to children is easy, it is fun, it is important. Teaching Spanish should begin with the receptive minds of youth. Spanish should be taught as we learn English, conversationally with emphasis on usage rather than grammar. Teaching Spanish is necessary to our understanding of the people with whom our future is destined. Teaching of Spanish from the Kindergarten through the University is necessary for a thorough and complete learning.

Some children inevitably would not pursue the study of Spanish throughout their lives; but at least a foundation would give them the advantage of choosing to be bi-lingual or not. Those who did choose to learn and continue learning would be able to converse with their classmates and their friends across the border without reservation.

Many of you I am sure have studied Spanish or French or other languages, but few of you I am equally sure can say you have retained that knowledge or attained the ability to think and converse in a foreign tongue. I hope my enthusiasm for speaking Spanish, as we do English, will help you to see that in teaching our children Spanish, we would be giving them new pleasure, understanding and power which we as a nation do not now enjoy.

Spanish is a beautiful language. It is rhythmic like poetry. It is emotional and expressive. If our children were to learn the language for its beauty alone, they would be amply paid for their efforts.

I don't believe I need to emphasize the importance of Spanish language and the good neighbor policy. I should like, however, to say that the good

neighbor policy today is merely a thought, and even a source of dissatisfaction to many of the Latin American people.

At a high school performance, I witnessed an interesting forum being held on the subject of promoting good will with our Latin American neighbors. Observing the performance as one who feels part Mexican, though there is no blood relationship, I was disappointed as a Mexican, and embarrassed as an American to hear these children saying, "And besides if we show good will to the Latin Americans they will be a great market for our goods. They need the commodities we produce and selling to them will raise their standards of living and bring prosperity to us." These facts are true, but the picture is typically American,—I'll do you a big favor, I'll sell you automobiles, bathtubs, radios; you will learn what it is to really live and you will make a fortune for me. It does not occur to many representing the United States that we have anything to learn from the Latin Americans, and that perhaps they do not want to be Americanized—Anglo-Americanized. If the example of some of our business and tourist people is all we have to offer them, they are justified in resenting our intrusions. In many instances we have exploited them unmercifully. They especially resent our commercial approach (though they welcome our capital), our lack of interest in them as a people and most especially our complete indifference to learning their language. The finest gesture we can make to them to demonstrate our real interest is to teach our children their language. Our interest in them basically is good, we are idealists and want bigger and better for everyone, we are just too abrupt, impatient and blind to the good they have to offer us. If our people understood the *language*, they would understand the *people* and therefore would be more effective and successful in carrying out the good neighbor policy. By teaching our children Spanish we would begin to make the good will policy more than a popular phrase. We would demonstrate to the Latin Americans that our intentions are honorable.

Since there have been no comprehensive studies of vocabulary content or grammatical principles in Spanish for the elementary grades, the field is highly experimental and flexible. There are disputes about the use of the familiar and the polite forms of address, the development of reading readiness or introduction of reading at all in Spanish, and there is a problem of introducing Spanish at different grade levels. There is also question of the use of cultural material. So what I have to suggest is a combination of an introduction to Spanish which I presented to the children of Claremont Elementary School in 1941, before courses of study in Spanish had been considered; the concensus of reading I have done on the subject of teaching Spanish in the Elementary grades and the course of study I have outlined for myself for the demonstration class in beginning Spanish which will be held this summer. At best these ideas are generalities, as the field is broad and challenging.

Teaching Spanish like English begins with the home and familiar persons and objects. Courses of Study have been developed in units about home, family, clothing; the classroom, domestic animals, foods, shopping, the community, flowers, birds and insects, A Trip to Mexico, Latin America, Early California, etc. At this beginning stage of development of a bi-lingual program, studies about the home precede all else regardless of

grade level. Thus the words for mother, father, house, dog, cat, etc., form the foundation for interest.

An arranged environment of pictures, objects, charts, posters, pertaining to familiar home and community things are the basis for building of vocabulary. Any pictures that integrate with the unit are acceptable—for the family touches upon many things—*insects, the milkman, travel, etc.* Pictures should be simple and varied. A single subject—*El Perro*, the dog, for the first introduction; a number of subjects—*El nino con los perritos*,—the boy with the puppies, as vocabulary increases; and more illustrative material as the children progress—*El Perrito esta enfermo y el nino siente mucho*,—The dog is sick and the boy feels sorry.

Pictures are not labelled in Spanish to avoid the confusion of the written word with the correct pronunciation. Pronunciation is very important; the teacher should know or find out about each word she is to present. Much irreparable damage can be done to the beginning child's Spanish if the teacher is uncertain of the pronunciation and enunciation.

Charts may be presented using simple sentences in English and illustrations to be named in Spanish. Flash cards are valuable for the practice of identifying and naming pictures as—*un gato*—before they think, that is a cat, in Spanish we say *gato*.

Objects naturally are the most effective. *¿Qué es esto? Es un lapiz* (pencil). *¿Que es esto? Es un vestido* (dress). If the children just learned the objects in an ordinary classroom, including the clothing and parts of the body of their classmates, they would have a good language foundation.

Now we have an arranged environment, we must do something with this environment. The beginning day and each day following, the children greet the teacher,—*Buenos dias Señora*, and each other—*Juan ¿Como está Ud?*—How are you, John? They learn their own and others' names in Spanish and if there is no counterpart in Spanish they may like to adopt one. They are told the name of the day of the week, the month and day of the month; and in more advanced classes they read the date upon the board.

They learn by rote, useful expressions as, *Por favor*—please, *Gracias*—thank you, *De Nada*—you are welcome. They follow simple directions—*Abra la puerta*—open the door, *Cierra la ventana*—close the window. Using the pictures or objects they acquire with a vocabulary of nouns, common verb expressions,—*El nino bebe leche, le gusta leche*—The baby is drinking milk, he likes milk. Simple present tenses for beginning work are preferable, however, since no explanation is made in grammatical terms, the children can learn,—*Como—I eat*, as easily as—*Comí—I ate*. The only difficulty would be the confusion of the similarity of verb expressions which might necessitate an explanation of verb conjugation, which would be undesirable. It is best for the experimenting teacher to confine the verb expressions to simple present and the command forms.

Easy for the child, and hard for the adult to learn is the placement of adjectives. In general all adjectives follow the subject—*la casa blanca, el gato negro*—the white house, the black cat. There will have to be much drill and English explanation of the fact that all Spanish words are masculine or feminine and that all modifiers must agree in number and gender. This is very amusing to the children, they enjoy thinking that the

table is a she and the pencil is a he. It is more difficult to help them to remember word agreement.

For the most part the children can learn anything you present to them clearly and repeatedly, just as we all learned English as children. If they are taught well they know by sound whether an expression is correct or not. In fact they become so sensitive to correct usage they frequently challenge the teacher and acquaintances—so you had better be on your toes! They take great pride in their knowledge and do not permit the use of the word—Los Angeeles, it must be Los Ang' hel es.

There are innumerable activities from which to draw in order to use Spanish expressions:

Games, authentic Latin American ones, and versions of American games. Of the many types there are for example—

Games may be chosen or created for any particular kind of practice needed. For example—

1. Question type game—¿Tiene Ud. el lápiz en su mano? No, no, lo tengo—excellent for practice of verb expressions.
 2. Spell-down type game—the object being to identify things and their color—la mantequilla es amarilla, the butter is yellow—emphasize placement and agreement of adjectives.
 3. Commands given by student or teacher to follow simple directions—tests comprehension.

Aside from games, vocabulary can be integrated in—

1. Simple riddles, created by the children or the teacher. ¿En qué mes hablan menos las mujeres? In what month do women talk the least? En Febrero—In February.

2. Verses—about the senses, days of the week, months, hours, parts of the body, animals, etc.
3. Exercises for pronunciation—Erre con erre cigarro, erre con erre barril.
4. Tongue twisters—Pedro Pablo Perez pereida.
5. Songs—simple ones, *Fray Felipe—Brother John, Uno y Dos y Tres Inditos, Ten Little Indians*; more complex ones—*Alla en el Rancho Grande*; prayers and lullabies—*Canciones de cuna*; and seasonal ones as, *Noche de Paz—Silent Night*.

In order that vocabulary introduced by songs, games, poetry and dramatic play be retained it is most important to repeat and review rather than introduce quantities of new material.

An advanced Group of 3rd and 4th grade children studied Mexico with me at the Claremont Elementary School. Because of my interest in Spanish I gave them Spanish words and expressions, just for the enjoyment the children and I received.

The room was arranged in an environment of Mexicana—serapes, sombreros, bowls, pictures of Mexican subjects and pictures of objects common to both countries.

We began each day with appropriate Spanish greetings, a discussion of health and the date, using key Spanish words. Because there were no appropriate text books covering the study of Mexico we read mimeographed papers on Mexican clothing, food, transportation, history, geography, folklore, the arts, the market, Christmas time, etc. The children listened to Mexican records and tried reproducing Mexican art.

They learned many Spanish songs, *La Cucaracha, Alla en El Rancho Grande, Noche de Paz, O Patria Mia—America*. I believe they enjoyed most Mexican dances. During class, at noon and after school we danced, *Las Chiapanecas*—the Clapping dance, and *El Jarabe Tapatio*—the Hat dance, the two most familiar dances of Mexico. They brought sombreros, full skirts, serapes and whatever they could find at home to wear as costume. They seemed never to get enough of dancing. If you are interested in learning these and other dances, any Mexican child would be happy to teach the steps to you or your students. Most Mexican children have a wealth of songs and dances at their command. They are not often given the opportunity to contribute their talents to the school group.

In Claremont we were fortunate to be able to visit Padua Hills with its Mexican atmosphere and people. As a class we watched the performance of "Las Posadas"—the unique and lovely Mexican traditional Christmas. We also visited a home furnished with typical Mexican art objects and were entertained by the hostess with stories of her many trips to Mexico.

As it was the Christmas season, the children reproduced the nativity scene. They made pipe stem dolls, dressed them appropriately and arranged them upon a table; just as the nativity scene adorns even the poorest of Mexican homes. I remember with amusement how the children solved the problem of suspending a star over the Holy Child. One boy volunteered some well chewed gum, placed it at the opposite end of the string holding the star and then proceeded to stick the string to the ceiling with the assistance of a transom pole.

They wrote letters to imaginary Mexican friends, using their limited

vocabulary and much teacher-help. I must admit my interest here was not in teaching Spanish, but in getting the children to practice good penmanship. Each child had a Mexican stamp for the letter—contributed by one of the students who had lived in Mexico and who had contributed much to the study.

The children compiled a notebook of the mimeographed material, songs, dances, and vocabulary they knew. The notebook was a success at home, for the parents had no idea their children were being taught so much Spanish.

Culminating the unit we held a Mexican Fiesta, a gay party which revolves about the Piñata. We danced, sang all the songs we knew, played games, had helado—ice cream, and cookies and finally broke the piñata. The piñata is an earthen jar or as in this instance a cardboard box, which is gaily decorated with streamers and decorations representative of animals, birds, or grotesque figures. Each child takes a turn blindfolded, trying to break the piñata with a stick. When it is finally broken the children are showered with candy, nuts and surprises. The piñata is suspended by a rope; needless to say the party was held outside.

If I were to have the class again, with the objective of teaching Spanish, I would enlarge upon such a unit a great deal. There would be much more conversation, vocabulary drill, many, many games and verses, a simplified Spanish reader for an intermediate class and there would be plenty of dramatic play with some costuming. There could be for dramatic play a Mexican market with the variety of commodities found there—fruta—fruit, legumbres—vegetables, ropa—clothes, etc., or a Mexican home, as it differs from ours and furnished with—las sillas—chairs, la mesa—table, la cama—bed, etc.; or the community and the community helpers—la tienda—the store, el policia—policeman, el bombero—the fireman, etc.

Reading about life in Mexico and a review of words descriptive of the material studied would lead to the desired conversation and to dramatic play. A picture of la tienda—the store, following discussion and vocabulary learning suggests improvised or rehearsed dramatic play. For instance—Voy a comprar una manzana, ¿Quiere Ud. uno? Quiero dos manzanas, ¿Cuanta Cuesta? Cinco centavos. Gracias, de nada—I am going to buy an apple, do you want one? I want two apples, how much do they cost? 5 cents. Thank you, don't mention it.

I would certainly include more music and art appreciation in this hypothetical class. If possible I would like to see the children attempt reproductions of Mexican handcraft—pottery, weaving for example. I would most surely have motion pictures for the children. I now know that Pan American Union has many motion picture reels available without charge and of course the larger boards of education have visual material available also. I would consider the use of a Spanish periodical, written for school use and I would have for evaluation, picture vocabularies or picture dictionaries.

Materials for such a study and like ones are becoming abundant. The Pan American Union supplies freely a wealth of material on history, geography, the arts, customs, culture, etc., of the Latin Americas. Bibliographies are available by writing Washington, D. C., and in the Curriculum Laboratory in Harper Hall, Claremont College.

The Emerson Publishing Co. has in print a charming set of song books that are inexpensive called *Cantemos!*

Banks, Upshaw & Co. has an inexpensive and good booklet of games called *Merry-Go-Round of Games In Spanish.*

The Curriculum Laboratory has just published a course of study in four units—Home and Community; Early California; Mexico; Latin America. The course of study has been developed over a period of three years in the Spanish Language Work shop. It is excellently done.

There are of course many more references I cannot mention.

Those attending the summer session might be interested in the demonstration class which will be held at the Scripps Nursery School from 1:30 to 2:30, July 16 to Aug. 3rd. There will be two classes, a beginning group, -grades kindergarten to 4th; and intermediates who have had a year of Spanish study—5th and 6th grades. The classes will be conducted alternately by myself and members of the Latin American Workshop.

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Bulletin

Division VI

Instructional Factors Affecting Reading and Learning

"A major function of the school is to stimulate the learner to achieve a high level of thinking which leads to efficient behavior. Too little time has been devoted to an analysis of the behavior that should be activated in terms of other than manipulative skills with symbols."

Mrs. Marguerite Brydegaard

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MATHEMATICS: A BASIC FORM OF READING

*Marguerite Nordahl Brydegaard
Assistant Professor of Education, San Diego State College*

The title of this paper, "Mathematics: A Basic Form of Reading", should have a fuller caption which would elucidate through a mathematical proof such as: Your chances are eight out of eight that you teach mathematics! Your chances are zero out of one hundred that if you are a teacher, you can do other than teach mathematics! However, not unlike the soaps that produce "those hands you love to touch" or the sure cure for "B.O.", the mathematical proof above has its catch, too. The catch in this case is that the issue is not an either-or proposition. It is a matter of how much you are aware of mathematical relationships and how astute you are in stimulating the learner to formulate concepts of basic relationships with regard for quantity.

Let us take a few minutes to evolve some purposes of education through the school, and then evaluate the place of our topic in this program. A major function of the school is to stimulate the learner to achieve a high level of thinking which leads to efficient behavior. Too little time has been devoted to an analysis of the behavior that should be activated in terms of other than manipulative skill with symbols. There is considerable evidence to indicate the need for such analysis. We see evidence of this in the periodical literature as well as in our classrooms. For example, in a recent study, "Essential Mathematics for Minimum Army Needs"¹, the authors report that many of the enlisted men, even those who had had a considerable number of courses in mathematics, were unable to apply, even in simple situations, the ideas basic for understanding those courses. Similarly, in the field of reading printed word symbols, Roma Gans in her report, "A Study of Critical Reading Comprehension in the Intermediate Grades,"² found that many children who had achieved high scores on standardized reading tests were not good readers from the standpoint of critical thinking. Many children who received excellent ratings on the comprehension part of a standardized test were found to "display disconcerting gullability" and lack of discrimination in reading. These instances are only a sampling; there are many other examples. We have only to observe behavior in our class-rooms—or even better—behavior outside our classroom doors to see that mechanical fluency with symbols does not necessarily stimulate a high level of efficient behavior. Yet, most of our courses of study are set up entirely in terms of manipulative skills to be achieved. This leads many teachers to

¹Committee of the U. S. Office of Education which worked in conjunction with the Civilian Pre-Induction Training Branch, "Essential Mathematics for Minimum Army Needs," *The Mathematics Teacher*, 36:243-282, October, 1943.

²Gans, Roma, *A Study of Critical Reading Comprehension in the Intermediate Grades*, Teachers College, Columbia University Contributions to Education, No. 811. New York. 1940.

formulate their basic goals for teaching in terms of having children achieve the set skills. Thus, the educative process lends itself to drill—memorize the 100 primary combinations with addition, the steps to perform long division, the multiplication tables, the way to move decimal points, what to turn upside down in the division of common fractions, ad infinitum!

One's concept of a thing determines the nature of his behavior with regard for it. Thus, if intelligent understanding is to occur in behavior as a result of teaching, we must analyze what concepts are instrumental in producing that behavior. Each subject field that we can identify should make its specific contribution in terms of concepts which are basic for intelligent interpretation of that subject. Skills, facts and language techniques are important to implement the concepts. However, we are in agreement, I am confident, that to start our analysis in terms of facts and skills is to "put the cart before the horse"—in fact, it is usually omitting the horse!

Let us look at the subject termed "reading." Reading has been interpreted largely in terms of skill with printed symbols. There has been much progress since the time of *a b* says "ab", but many teachers conceive that meaning is indigenous within symbols and that through an extracting process the child will become an effective reader. I am confident that we readily see the fallacy of this idea. In the first place, the symbol does not contain the meaning; it can act only as a stimulus through which the child creates meaning. Secondly, the child can create meanings only in terms of the concepts which he possesses.

At the Claremont Graduate School, through the excellent stimulation of Dr. Peter Spencer, we conceive of reading as discriminative behavior which is activated by many types of stimuli. Actually, we read things, situations and people, and reading of printed symbols is only one aspect of the problem. At present, reading of printed symbols is the major concern of many educators, but it is a truism that reading of things, situations and people determines what one reads into symbols. Our misconceptions of the nature of reading have led us into so much trouble that many of the major conferences on reading that are held in this country are being devoted to the consideration of remedial reading. In fact, this is the only conference of "so-called" reading that I know about that is not remediating on the basis of past instruction. The remedy usually consists of delivering larger quantities of the original medicine, and there is little basis for thinking that through larger doses the medicine should gain potency!

Lest we stray into a field that is so broad that the nine yearbooks published by the Claremont Graduate School do not more than begin the story, let us turn to the reading of mathematics. By so doing, we move from "the frying pan into the fire" because there are at least as many misconceptions with regard for mathematics as there are for reading, and a mixture of two misconceptions doesn't make our task easier! There is an old Stoic proverb that "men are tormented by the opinions they have of things, rather than by the things themselves."² So has it been with mathematics. Even the little word "arithmetic" has tormented some educators so much that they have attempted to remove arithmetic from the primary grades. An investigation of their opinions concerning the word "arithmetic"

²Robinson, James Harvey, *The Mind in the Making*. N. Y. Harper and Brothers Publishers, p. 3. 1921.

reveals that it has been conceived as number-work only. Through the teaching of arithmetic, an attempt has been made to have the child memorize sets of facts and manipulative skills that are designed to produce first-rank computers. (At least rank!) It is little wonder that compilers of courses of study and many teachers concluded that the removal of arithmetic was the answer to the "torment." If these people would treat the word "arithmetic" semantically, I am confident that they would revise their statements with regard for its status.

Arithmetic is reading which is activated through discriminations "with regard for quantity and relationships among quantities."¹ It is impossible during conscious behavior to avoid reacting "with regard for quantity and quantitative relationships" because whatever exists must exist as quantity, and one cannot avoid reacting. However, one's reactions with regard for quantity may be on a low level of discrimination, and it is probable that he will not achieve more than a few thousand years in this history of man's progress in mathematics unless the process is facilitated through an organized agency of society such as the school.

Arithmetic is a system of concepts with regard for quantity. The extent to which an individual formulates a clear understanding of the concepts determines the degree of his mathematical literacy. There is need for analysis of the concepts that are basic for interpretation of quantitative phenomena. We can identify many of these concepts, but a logical development of them should be evolved so that the teaching of them will lead to generalizations that are instrumental for stimulating intelligent behavior.

Secondly, there should be an analysis of the language patterns and of the number facts and skills which are needed to implement these concepts. If materials and procedures for teaching are selected with precision, we can greatly reduce the amount of materials needed to achieve mastery and can greatly facilitate expedient behavior with the given facts and skills.

How is all this related to the teacher of the primary grades? Certainly the teachers of primary grades do not initiate the process of mathematics. The child has a considerable background of mathematics when he comes to school. It is the privilege and the opportunity of his teachers of the primary grades to stimulate maturation of his concepts and of his knowledge of number facts and skills in a way that is unique. In general, children of the primary grade level think so clearly and so directly that the discovery of concepts is more significant and dynamic in their behavior than it is in the behavior of older children and of adults. Frequently, older children and adults inhibit themselves from discovering basic relationships because of misconceptions that they have developed through faulty teaching and inaccurate generalizations, and because they make hard work out of relationships that are simple. I've often experimented with a concept at grade two level, at grade six level and at college level. It is amazing how difficult the concept becomes at college level!

Let us develop a few illustrations of discovery of concepts with regard for quantity at the primary grade level. The concepts range from discovery of simple relationships such as "am I tall enough to reach the switch to turn on the lights, is there room enough for all of us to sit at this table, is the

¹Spencer, Peter L., concept for arithmetic developed in his classes and in various publications.

doll's chair large enough for me," to "how much larger than John is Susan, how many digits do we use in our number system, and about how many times as far is it around a circle as it is across it." This last example was developed with a group of children in grade two who were having a short unit on measurement. We had many tin cans, jars, boxes, et cetera, with which we were experimenting. One of the cans with the topic of discussion and a question arose concerning how far it was around the top of the can compared with how far it was across the top of the can. The children were asked to estimate the distance around compared with the distance across the can. Their answers ranged from "about two times" through "about four times," but the most frequent answer was "about three times." A discussion ensued concerning how we could find out. The children suggested that we measure with our hands or with a string to find out which children were nearest the correct answer. We used a string to measure a can, and the children discovered that it was a "bit over" three times as far around the top of the can as it was across the top. "Let's try another one," the children suggested. After we had measured two cans and a jar with a round top, one member of the group declared with great enthusiasm, "We can measure all the jars and cans here, and it will come out the same way. We will find out that it is a bit over three times as far around the top of them as it is across." The teacher suggested that the children do so more measuring to see if the above conclusion was correct.

A student-teacher who observed the lesson was gasping, "Gosh, 'pi r squared, and I never really discovered it until today. I merely memorized the rule and accepted it because it was in a book!" That she merely memorized a rule can be readily discerned through her use of the incorrect formula. It was interesting to discover that a group of eleven college students who were asked a question concerning the relationship of diameter and circumference made the same error as the student-teacher. The answers were, "Now what was that rule we learned. Oh, yes, I remember. It was 'pi r squared.'"

Similarly, as can be discerned through his behavior, the child of primary grade level is astute in sensing relationships with division. He readily senses that when the amount of goods to be distributed equally among a group is constant, that the fewer children present, the larger will be the amount of goods per child. He is certainly very much aware of this relationship when a scolding is pending! He recognizes that the more children that can be involved in the plot, the less punishment to fall on each head! This simple reasoning may seem pointless, but, in reality, it is indicative of the type of direct thinking that children do. Secondly, the above concept—simple as it seems—is the concept with regard for division that is basic for interpretation of division relationships in which there is a constant dividend and a variable divisor. It is the concept that is basic for understanding and interpretation of the division of decimal fractions when there is a decimal point in the divisor only and for the understanding of division of common fractions. It is, similarly, a concept which is basic in the field we call social studies if one attempts to interpret ideas with regard for division that are basic with that area of regard. Such factors as sensing that if the amount of goods available is constant (dividend), the smaller the divisor (number of people who share equally the goods), the larger the quotient (amount of goods per

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person)—and if the amount of land owned by a country is constant (dividend), that if the population of the country increases (divisor) that the quotient decreases, and we frequently have "land-grabbing" as a result.

There is definitely a dichotomy between concepts which are basic for intelligent behavior with regard for quantity and the verbalizations concerning those concepts that occur in a class period termed "mathematics." Frequently, the dichotomy is so great that neither children nor teachers recognize the verbalization as even remotely related to the concepts which are essential for their interpretation. When mathematics is taught as a system of concepts, there is no dichotomy and mathematics becomes dynamic in behavior.

We have but little realization concerning the potentialities that exist with regard for stimulating the learner to a high level of mathematical literacy. We have made only a beginning in our understanding of the learner, the nature of the process through which he learns most effectively and what is basic in terms of the types of behavior that should be activated. The mathematical proof stated at the beginning of this paper could well be changed to "your chances are ten out of ten that you are *very effective* in your teaching of mathematics if (1) you are aware of mathematical relationships and have formulated systems of concepts that are basic for your intelligent understanding of mathematics, and (2) if you are astute with stimulating children to achieve the concepts which are basic for intelligent interpretation of "quantity and relationships among quantities."

THE INFLUENCE OF BOOKS ON THE CHILD'S PERSONALITY

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Estimating the Power of Books on Personal Development

Do teachers in the elementary school underestimate the power of books to improve the personalities of children? Is there a lack of conception on the part of teachers concerning the inspirational value of books? Is there the danger of becoming so engrossed with vocabulary counts, eye movements, phonics, seatwork exercises, and all the other necessary paraphernalia of instruction in reading that teachers overlook the role books can play in influencing personal development? Are children so badgered with book reviews and check tests on content that spontaneous interest and effortless pleasure reading are sacrificed? Challenged by administrative demands to

show concrete evidence of reading progress, do teachers ever stop to argue that "the ghost of an idea or point of view" gained from print may not show up in the child's reactions until many years have passed?

While no accurate information is available telling us the exact status of teacher opinion with regard to the value of books as molders of personality, an informal poll, carried on at numerous teachers' institutes throughout the country, seems to indicate that the great majority are skeptical concerning the power of reading to change personality. This wariness to believe that there could be such a thing as a book-made personality has grown up for the following reasons:

1. The prevailing philosophy of education has endorsed "learning by doing" at the same time vigorously questioning the value of "book learning." So great has been the prestige accorded to learning by experience that learning by precept has fallen, if not into active disrepute, at least into partial neglect.

2. It was once the absurd custom to schedule "ten minutes of thrift on Friday" or "five minutes of manners and morals on Monday." Precepts dealing with desirable character traits were read aloud and memorized rote fashion. Since no attempt was made to have the children put these precepts into practice in live motivated situations, they left the children just where they found them. Noting the singular lack of success which crowned efforts to improve children's conduct through the medium of reading selections of high moral quality in books, teachers lost faith in the idea, not realizing that the exposures had been too short, too direct, and most of all, too grim.

3. The publication of a great many books making exaggerated claims to create on demand a certain type of personality raised a cloud of suspicion which was transferred to all books designed to show people how to improve themselves. Cultist books which claim to give the reader a magnetic personality in 102 pages or to develop poise in three easy chapters, or worse still, to cure or prevent old age, belong so obviously to a quack category that it is little wonder that the public has come to view with lackluster eye the entire output of "how to" books, even though this sweeping condemnation works a hardship on genuinely helpful studies to improved salesmanship, for instance, or on scholarly studies, such as Mortimer Adler's "How to Read a Book."

4. Lack of faith has marked the general attitude toward books on personal improvement because the readers of these books have usually been poor advertisements for the programs of self-enrichment they are supposed to have digested. Most people won't earnestly "work at" a program of improving posture, speech, or manners. As a consequence they furnish such ineffective examples that others are discouraged from consulting the books. Just reading a description of good posture in "Your Carriage, Madam" or of gracious manners in Margery Wilson's book entitled "Charm" will not bestow queenly posture and winning address. The recipes for posture and charm will remain inside the covers of the book until they are lifted out and put into practice by some persevering individual. A cake recipe doesn't bake itself! General doubt of the efficacy of "how to" books of any sort comes from the failure on the part of their readers to give them a fair trial. Just standing straight for the first few hours after reading a book on posture

(when impressions are fresh and resolution strong) will not remedy round shoulders. Persistence in following back-strengthening exercises and in giving the self stern reminders to walk and sit and stand as though "strung up by the ears" are needed. Advice, to have any effect, must be integrated with daily activity. The widespread tendency to leave counsel in the book is well illustrated by a cartoon which shows a wife calmly reading a book on Child Training while her son is bashing his father over the head with a mallet. The father is pleading, "Darling, speak to Richard." Thoughtless interpretation would condemn material on child training, whereas what really is at fault, is the wife's lack of application of the good advice she is reading. Books must be tested by life.

The Outlook for Making Wider Use of Books in Personal Guidance

There are many hopeful signs of heightened appreciation of the role of books in influencing human behavior. When Nazi Germany horrified the civilized world by making huge bonfires of all books which didn't agree with their crazy ideology, we realized anew the power of the printed word to bring enlightenment. At any rate, there has been of late an increase in reading guidance services both for adults and children in our public library systems. Not long ago the newspapers featured an account of a reader's adviser service inaugurated by the public libraries of New York City. Lists of books for the solution of practically every known problem were made available. Harassed citizens were invited to turn to books to try to study out problems for themselves. According to reports, many thousands have taken advantage of the service. Requests for books to help solve every kind of problem from insomnia to mother-in-law trouble have come in. Wherever the adult reader has faithfully tried to follow the counsel in the books given him by the reader's adviser, results have been satisfactory.

New York city authorities have also been using books as a corrective program in cases of juvenile delinquency, and report improvement in what were once considered hopeless problem children. Howard Pease described how certain reading selections can be utilized to increase children's understanding of minority groups in the April, 1945, issue of the *Hornbook*. The famous Springfield, Massachusetts, plan¹ has relied heavily upon reading to combat prejudice against racial and religious minorities. The entire community was mobilized in drive to make democracy a warm functioning thing. After reading Richard Wright's poignant study, "Black Boy," one of the teachers wonderingly confessed: "I look at negro children differently now. I could feel my attitude changing even before I had finished the first chapter."

Dependence on books to bring about changes in human behavior was implied when the authorities published guides telling members of the armed forces how to get along with the natives of Egypt, England, etc. These guides are supposed to have prevented much friction. A similar reliance on the printed word to effect smoother human relations was expressed in England when the authorities prepared guides to the United States, which were handed to the British wives of American soldiers at the time of their departure for our shores. These interesting little books frankly offered

¹Public Opinion and How It Is Influenced. (Springfield, Massachusetts; Board of Education, 1943.)

hints on understanding American habits, such as kidding, asking personal questions, displaying enthusiasm over everything, etc. Who is so pessimistic as to doubt but what these little guides prevented many unpleasant misunderstandings between the reserved British-born girls and their new in-laws!

Vicarious Experiences Through Books and Reading

In spite of the daily demonstration of the power of books to influence human behavior, it is fashionable to take a patronizing attitude toward reading even in its secondary role of permitting vicarious experiences. Not long ago an actor was discoursing on the topic "The Actor as a Person" before a college dramatics class. "Even if an actor has good training," he said, "he will amount to nothing unless he is a person in addition to being an actor. The more complicated and full of interests he is, the better will his acting be. The things which combine to make him a better person—that book he read last week, that concert he heard last month, that trip he took to Mexico last year—all pour in upon him and enrich him and his art."

At first he sounded as if he were furnishing arguments for reading, but it turned out that the good word he had spoken for books as agents of personal enrichment was rather grudging, for he went on to explain: "Of course, books do the least for the individual. Direct contact is the thing. Actually going to Mexico is worth much more than reading a hundred books about the country."

Echoing this point of view, Clarence Day once took a sly poke at the amount of nourishment to be derived from reading as compared with experiencing, when he wrote a little essay entitled, "The Three Tigers" in his collection "After All." The first tiger, he said, went right out into the jungle and braved its terrors. Adventure from morning till night was his chosen course. He lived everything at first hand. The second tiger, Mr. Day went on to explain, was brave too. Oh, my yes! He didn't mind reading about the dangerous and bloody battles of the first tiger. But the third tiger was too timorous to even get his adventures at second hand by reading about them. And oh, how the first, or "doing" tiger, despised the second, or "reading" tiger! But that was nothing to the way the "reading" tiger looked down on the timid tiger who wouldn't face "reality" as the second tiger put it, and stomach strong books. The author's satire, as well as the actor's speech, both seem to place actual experiencing so far above the vicarious experience we get from reading, that one scarcely dares to mention them in the same breath. This point of view clearly underestimates the power of books. Since it is utterly impossible in three score years and ten to travel to all the interesting jungles in the world, or climb all the thrilling mountain peaks, or meet all the popular lions, we gratefully acknowledge the value of books in allowing us to experience vicariously what we cannot hope to experience in actuality. Denied the trip to Mexico, armchair travel via "Magnetic Southland" by Sydney Clark or "Mexico Speaks" by Guido Rosa, are considerably better than nothing. And the fact should not be overlooked that books about Mexico will help the reader to place and organize impressions and facts that the average traveler fails to see.

While few of us would be willing to go as far in the opposite direction

as Charles Lamb when he wrote: "Must knowledge come to me . . . by some awkward experiment . . . and no longer by the familiar process of reading?" yet many will admit that our mechanical, practical, muscular, extroverted society has placed too high a premium on action at the cost of learning vicariously through books. Jacques Barzun¹ pointed out one of the weaknesses of limiting learning to experience in his statement: "Experience is a great thing, but there is always the danger that one experience will be taken as representing the whole truth." He seemed to be implying that often we are brought too close to things in life to see them clearly and in perspective. Later he states, in the same reference: "Books help to lift you out of your narrow local life and enable you to see the workings of other human minds." And then he goes on to say that true reading gives you the equivalent sensation of actually being in a place and seeing and hearing all that is going on. Often, too, the author finds words to express what has been pent up in you. Thus the reader is not only introduced to new ideas through reading but *extends* his experience as well. Books are not passive and inert. They're inflammable enough to fire you with zeal. They can make you cry, or burst into laughter; they can make you fighting mad. They can disgust you with politics, taxes, sanitation. They can produce action, or deter it. At the opposite end of the pole from the actor who said a trip to Mexico was worth one hundred books about it, was the woman who told a friend that she felt a nostalgia for Mexico. Asked why, when she had never been there, she replied: "Oh I've read so many books about it I feel as if I'd visited it a dozen times."

Paying equal tribute to the vicarious experiencing which reading gives, a little girl from the middle west who had moved to California, told her new teacher: "Long before I ever saw the ocean and mountains out here I had a longing to see them. And the first time I did, I felt as if I'd been there before because of descriptions I had read in my geography back in Iowa."

We are impressionable enough to take on the color of the books we read, and little by little, "shift the cargo" of our ideas and opinions, tastes and preferences. A scene we might view with an unappreciative eye, if left to our own devices, becomes, with the help of a good writer's vivid prose, fascinating enough to stay with us the rest of our lives. A child reads about green English meadows, roadside inns, nut brown ale, elms bending tenderly over winding little streams, footbridges, and country stiles. He forms a certain romantic association for such a scene and may even experience the nebulous desire to visit the English countryside some day. When he does, who can measure how much more deeply he savors his trip because of introductory vistas enjoyed in his early reading! Think how many trips to Europe have been affected by ideas gathered from reading Mark Twain's "Innocents Abroad"? Or imagine what Charles Dickens' mouth-watering descriptions have done for the cause of meat pies! *The Teacher's Role in Advertising Books for Self Enrichment.*

Recently an educator astounded a group of teachers when he stoutly maintained that you cannot be a better teacher of reading than you are a reader. This statement was repeated out west at a gathering of reading

¹Barzun, Jacques. *Teacher in America*. (Boston, Little Brown and Company, 1944.)

authorities, some of whom had written dozens of books on reading techniques, but who were as inbred as the Jukes and the Kallikaks from reading nothing but articles and books and monographs on *instruction* in reading. Many of them became indignant and said they had no time to read fiction, biography, poetry, or even best-sellers, implying that they had more important things to do. Challenged, one of them admitted that the last piece of fiction he had read was in 1919, when for some curious reason he had been led to read "Quo Vadis." After heated discussion the authorities and teachers present conceded the truth of the statement, forgot their insulted feelings, and went on record that the teacher should be possessed of broad deep culture and a rich background of reading in order to arouse and guide children's interest in reading. To put it colloquially: The teacher must be sold on books herself before she can sell children on reading them.

There are many books which list the values to be obtained from reading and which reward the teacher for the time spent studying them, but because of the exigencies of space only two such will be mentioned and briefly described here. The teacher who wishes to go before her class armed with a knowledge of what books can do for human beings will find both these books not only helpful but highly readable:

1. "Books That Have Shaped the World" by Fred Eastman¹ has three main parts: (1) Walking With the Great; (2) What's in the Classics? and (3) The Curtain Rises.

2. "What Can Literature Do For Me?" by C. Alphonso Smith² is divided into six chapters, bearing these stimulating titles: I. It Can Give You An Outlet; II. It Can Keep Before You the Vision of the Ideal; III. It Can Give You a Better Knowledge of Human Nature (a magnificent chapter); IV. It Can Restore the Past to You; V. It Can Show You the Glory of the Commonplace; VI. It Can Give You the Mastery of Your Own Language.

Any teacher of reading will be a better teacher for having read these books.

As to the method, it is not desirable to encumber children with the need to "report" on what they've read all the time. There should be opportunity for free unchecked reading. It would be of help, from time to time, of course, to do an analysis on sample passages to show children how to apply to their lives what they read. Other passages should be read at the normal pace. At times children should be encouraged to interpret selections they enjoy, explaining their preferences, listing values received, etc.

Because life-long opinions are picked up through early reading it becomes a task of primary importance to expose children to a well-balanced program of every possible sort of book. Therefore the teacher should check out books from the library with deliberate intent to influence the children's personal growth. Even let the children in on the secret and tell them how books can flavor and color and enrich existence. Especially the factual-

¹Eastman, Fred. *Books That Have Shaped the World*. (Chicago; American Library Association, 1937.)

²Smith, C. Alphonso. *What Can Literature Do For Me?* (New York; Doubleday, Page and Company, 1922.)

minded need to be encouraged to read the type of whimsy which Alice in Wonderland presents. If the vocabulary is too difficult, the teacher should make it her business to read it for the children. There was once a literal-minded little boy who menaced the peace and quiet of the sixth-grade classroom by coming to school every day accompanied by a volume entitled "27,000 Little Known Facts." While the teacher felt a fitting punishment for him would be to sentence him to listen to "Information Please" and other radio programs dealing with irrelevant and useless facts the rest of his life, she forebore, and initiated a program of reading guidance to lead him into the exercise of his imagination. Reading part of "The Petershams" to him, she stopped in the middle of a funny incident and then let him continue. She also introduced him to "Tom Sawyer" and "Huckleberry Finn"—two boys who never hesitated to use their imaginations. Then she let him wander in the exciting world of pursuit and hiding which James Fenimore Cooper opened up in his story of "The Spy." Imperceptibly book by book and story by story she got him to react to imaginative episodes in print until she had helped him to form a new taste in reading. That teacher firmly believed that if a child reads certain books he will become a different person. It has been proved that reading many books on Mexico, for example, helps the reader to acquire almost as much of the Mexican's calmness and carefree approach to the problems of time as actual exposure to this attitude by a visit south of the border. What American would not benefit from reading about how to relax!

Of course no teacher can guarantee that a given book will accomplish a definite end. No book is the key to a child's heart or mind. What happens when a child reads is unpredictable. The changes in his personality cannot be laid on, but must be integrated, or made within him. However, the child will remember all his life the flavor and form, the emotional impact of what he has read, even if he cannot quote exactly in so many words. *Sample of a Balanced Supply of Books for the Classroom Library*

Some teachers unconsciously hit upon a balanced supply of books for the room library, but why not suggest the deliberate selection of books which will help to promote a well-rounded development for the children? Below are a sampling chosen from a school library with the goal of personal enrichment for sixth-grade pupils in view: When displaying these books the teacher might very well print placards stating: Books on Self Improvement, Nature, Humor, Hobbies, Etiquette, Nature Study, Travel, Music, Art, etc.

SAMPLE BIBLIOGRAPHY OF PERSONAL ENRICHMENT BOOKS FOR THE MIDDLE GRADES

ART

- Gibson, Katharine. *Picture To Grow Up With* (New York; Studio Publishing Company for the Junior Literary Guild, 1942)
Holme, *The Children's Art Book* (New York; The Studio Publishing Company, 1940)
Parker, Petersham Kay. *What and What-Not, A Picture Story of Art*. (Boston; Houghton-Mifflin, 1944)
Spencer, Cornelia. *Made In China, The Story of China's Expression* (New York; Knopf, 1943)

ETIQUETTE

- Leaf, Munro. *The Watchbirds, A Picture Book of Behavior* (New York; Frederick Stokes and Company, 1938)
 Pierce, Beatrice. "It's More Fun When You Know the Rules, *Etiquette for Girls*. (New York; Farrar and Rinehart, 1935)

HEROISM AND HISTORY

- Forbes, Esther. *Johnny Tremain* (Boston; Houghton Mifflin, 1943)
 Foster, Genevieve. *George Washington's World*. (New York; Charles Scribner and Sons, 1941)
 Foster, Genevieve. *Abraham Lincoln's World*. (New York; Charles Scribner and Sons, 1944)
 Van Loon, Hendrik Willem. *The Life and Times of Simon Bolivar*. (New York; Dodd, Mead and Company, 1939)

HOBBIES

- Bates, Alfred. *The Gardener's First Year*. (New York; Longmans, Green and Company, 1936)
 Faurot, Walter. *The Art of Whittling*. (Peoria, Illinois; Manual Arts Press, 1940)
 Gabo, Lester. *Soap Sculpture*. (New York; Henry Holt and Company, 1940)
 King, Eleanor and Pessels Willmer. *You and Your Camera*. (New York; Harper and Brothers, 1936)
 Powers, Margaret. *A Book of Little Crafts* (Peoria, Illinois; Manual Arts Press, 1939)
 Leeming, Joseph. *Fun With Leather, Fun With String; Fun With Boxes; Fun With Paper*. (New York; Frederick Stokes, 1941)
 Stiles, Helen E. *Pottery of the Ancients*. (New York; E. P. Dutton, 1938)
 Teale, Edwin Way. *The Boy's Book of Photography*. (New York; E. P. Dutton, 1940)
 Turner, John S. *Let's Start a Stamp Collection*. (New York; Frederick Stokes and Company, 1940)
 Zarchy, Harry. *Let's Make Something*. (New York; Alfred Knopf, 1941)

HUMOR

- Carroll, Lewis. *Alice's Adventures in Wonderland*. (New York; MacMillan, 1940)
 Hale, Lucretia. *The Peterkin Papers*. (Boston; Houghton Mifflin, 1886)
 Stockton, Frank. *The Casting Away of Mrs. Lecks and Mrs. Aleshine*. (New York; D. Appleton and Company, 1886)

LITERATURE AND POETRY

- House, Frances Frost. *Legends of the United Nations*. (New York; Whittlesey House, 1943)
 Untermyer, Louis. *Stars to Steer By*. (New York; Harcourt, Brace and Company, 1941)

MUSIC

- Henins, Frank. *Songs and Games of America*. (New York; Charles Scribner and Sons, 1943)
 Huntington, Harriet E. *Tune Up! The Instruments of the Orchestra and Their Players*. (New York; Doubleday Doran for the Junior Literary Guild, 1942)

Wheeler, Opal and Dencher, Sybil. *Life of Edward MacDowell and His Cabin in the Pines.* (New York; E. P. Dutton and Company, 1940)

Weber, Henriette. *The Prize Song Stories of Famous Operas.* (New York; Oxford Press, 1938)

NATURE

Wood, L. N. *Raymond L. Ditmars, His Exciting Career With Reptiles, Animals and Insects.* (New York; Julian Messner and Company for the Junior Literary Guild, 1942)

NATURE - FAKING (Stories in which animals are personified)

Graham, Kenneth. *The Wind in the Willows.* (New York; Charles Scribner and Company, 1913)

TRAVEL AND ADVENTURE

Follett, Helen. *Islands on Guard.* (New York; Scribners, 1943)

Rothery, Agnes. *Central American Roundabout.* (New York; Dodd, Mead and Company, 1944)

Stefansson, Evelyn. *Within the Circle—Portrait of the Arctic.* (New York; Charles Scribner and Sons, 1945)

Strong, Anna Louise. *People of the U. S. S. R.* (New York; MacMillan and Company, 1944)

RELIGION

Jones, Jessie Orton. *Small Rain.* (New York; Viking Press, 1943)

The Great Story. New Testament Gospels. (New York; Harcourt Brace and Company, 1940)

OUR CHILDREN—OUR CHALLENGE

Miss Leora Fuller,
Pasadena Public Library, Pasadena, California

OUR CHILDREN—OUR CHALLENGE is literally true in the realm of reading! We, all of us, know that life can be lived without books. Even today hundreds of thousands of human beings are doing so; the countless illiterates which we have even in this great land of ours which sets so much store by education, and the millions in China, India and Africa whose lives have never been touched by any form of instruction. Yes, people can and do live without books, but how dull and void is that living.

Indeed, even among the children there are many who have learned to read well who have neither the time nor what is more important the desire or inclination to read books. It is with this latter group of children that the real work of a children's librarian or teacher assumes tremendous importance. To try to inspire these youngsters to see as Milton has put it "A good book is the precious life blood of a master spirit embalmed and

"treasured up on purpose to a life beyond life," is vitally important in building up an awareness in the younger generation.

I have always tried to give my children the vision that the reading of good books makes a sort of a bridge across time and across lands and oceans; that such reading reveals to them the oneness of human beings whether they lived in Athens hundreds of years before Christ or in China centuries ago or in our own land during its days of violent birth and development, or whether they live today in Russia, India, or the Pacific Islands.

To give the most to the reader, reading should be active, not passive; it should by all means furnish nourishment for living, and present a philosophy in moral and spiritual development. A child well fortified with good reading has a bulwark of mental and spiritual strength.

As the child develops in reading it is the responsibility of one helping such a child to instill the thought and to help nourish it along, that books read, not just by words but by reading the thoughts contained therein, help the individual build up a philosophy for his own life; that they make the great of past ages and far lands their close friends and teachers; give a riper understanding of his own land; and enable the reader as he approaches adult comprehension and thought to discriminate among the prolific writings of the present.

Day by day and year by year I have watched books circulate among the readers of the children's department in a public library. As important as they are to the individual it more and more impresses itself upon me that books are far more important and vital to all mankind. Through them alone can our children retain contact with the past of man; and through them alone can humanity touch hands with its fellows in warring lands, and peoples in our own lands separated by great distances of geographic locations.

Consistently and persistently some child or group of children will get a whole classroom, and I have known it to happen to a whole school, interested in one book, mystery stories, dog and horse stories. Then, in one day's record 25 calls for *Lassie Come Home* by Eric Knight are quite common. But, "Lassie" consists of good literature in the children's field and the librarian needs feel no chagrin, except a flush of regret at being unable to supply the demand. However, when 10 to 30 children in one morning will request *Girl Next Door* by Augusta Seaman, she begins to wonder if she is a qualified children's librarian, and to worry about her shortcomings! I suppose that as long as we have children, and how could we spare them, animal stories will be continuously best sellers. In addition to the title mentioned, *Tiger Roan* by Glenn Balch is a remarkably fine yarn about the heroic and devoted pursuit of an Indian boy of a runaway colt; *Black Stallion* by Farley, the life and adventures of a "blue-blood" horse; *Lions on the Hunt* by Waldeck, a thrilling adventure tale of the struggle of one great lion for life and sustenance; and *Trail of the Buffalo* by Montgomery, harrowing struggle of a lone buffalo for life pursued by both white men and Indians; make good reading when animal stories are in demand or where an interest in animals is yet to be awakened.

It is always most easy to get a child interested in reading by presenting animal books but when they have run out of titles that seem to hold them

enthralled they inevitably turn to mystery stories. And, if the librarian can't supply the demand there is, as a general rule, no substitute accepted by a mystery story fan! It's been a great relief that present day authors always manage to insert an element of suspense or surprise, or unexpected outcome in most of their books, so one has a great choice. MacSwigan's *Snow Treasure*, a perfectly thrilling drama of brave children in Norway under the Nazi occupation, holds the young readers, and old ones as well, in a grip of suspense until the book is finished and one learns that the children have escaped from under the very noses of the Nazi leaders with millions of dollars of gold bullion. One of the nicest facts about this title is that this dramatically thrilling yarn which all enjoy is founded on absolute fact. Howard Pease seems to write more books of mystery than almost any other high ranking children's author of today. Readers who are slow, uninterested, lazy, or "good readers," all come back for more and more books like *Secret Cargo*, *Tattooed Man*, *Ship Without a Crew*, and *Thunderbolt House*. Equally popular with the young mystery story reader and equally successful to use in intriguing some disinterested youngster are all of the books by Stephen Meader. I have yet to find either a poor reader or an advanced reader who has failed to gain the utmost thrill and pleasure from Meader's *Sea Snake*, *T-Model Tommy*, and *Who Rides in the Dark*. Manning-Sanders' *Mystery at Penmarth*, a splendid story of adventure in a closed wing of an old English Castle, is one that I have used to great advantage to win a child over to reading, and besides the mystery which the youngster inevitably seeks a great deal of English history is passed along as a vital part of the story.

Every once in a while any one working with children and their reading will find some child who is interested only in books that sound and seem plausible. Career stories are just the book that they enjoy most heartily and especially is the enjoyment great when the hero or heroine is in the late teens or early twenties. The Sue Barton books by Boylston have been a virtual "life-saver" to many a children's librarian trying to interest some girl in reading. They like to read about Sue, an ordinary girl like themselves, going through all the phases of nurse's training and the various ups and downs of her career until she marries the handsome young doctor at the end of several volumes. In all justice to Miss Boylston, a nurse herself, I must say that the portrayal of the life of a young nurse is quite accurate and the same literary quality is maintained throughout the series.

Show me a child who doesn't enjoy a good hearty laugh . . . you can't! And what a joy it is to be able to bring forth from the library shelves Henderson's "Augustus books." They are books that almost any child either poor reader or efficient can read; and what is more, can enjoy! Augustus is a funny little boy with an easy-going father who believes in enjoying life and who is as full of ideas as Augustus himself, a mother who pleasantly endures much, and a little brother who likes to eat and a little sister who aims to keep track of Augustus, especially when he is about some secret business of his own. Children and adults all respond to *Augustus and the River*, *Augustus Goes South*, *Augustus and the Mountains*, and the other adventures of this likeable rascal.

Whenever I give a child Hunt's *Benjie's Hat*, a story of 8 year old Benjie and his efforts to get and keep a satisfactory headgear for himself,

I have acquired a lifelong friend. There is something so wholesome and heartwarming about the little fellow that all readers fall to adoring him. Its exquisite gem-like quality sparkles for all to see and to be dazzled thereby.

Walter Brooks, a quiet, little, retiring man, conceived the idea of a group of animals on Mr. Bean's farm under the leadership of a wise and knowing pig "Freddy" having many adventures human-like in their experience and funny enough to make the most reluctant little reader laugh and chuckle. Some day I think people who write about books and authors will say that Walter Brooks wrote his books as a sort of satire on present society. However, at present as an adult I am too near to them and so taken with Freddy that all I can do is to laugh with him, introduce him to my young friends, and fail completely to compare him with Lewis Carroll's *Alice In Wonderland*.

With pride and joy one can give to children any of Kate Seredy's books. They represent all that is fine and good in literature of today for children and sow the proper seeds of intellectual growth, philosophy of living, and spiritual development. *Good Master*, a vivid and colorful story of the metamorphosis of a mischievous and naughty girl under the gentle hand of an understanding uncle into a fine and lovely child is subtley accomplished with understanding and skill. The pranks are sufficient to catch and hold the interest of the reader. The sequel *Singing Tree* is equally dramatic and satisfying. And, then, perhaps the most beautiful *Tree For Peter*, a beautiful, soul-stirring story of a little crippled boy "from the wrong side of the tracks" and comprehension of all things fine and brave and strong and true through his contact with a strange man, and the fleeting smile of a little boy on a train. Children who just don't want to read have responded first to the beautiful illustrations by this great author and illustrator and then to the beauty of the wonderful story.

Always when I have the opportunity to work individually with the children I try to inspire them with the thought that each book read plays a part in carving character, that they can live in the company of the great of all time and share their thoughts, that to these great one needs no elaborate introduction; they are waiting for the readers to come, for they live again only when some one opens the pages of a book and allows them to speak once more.

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HOW IMPORTANT IS A SKILLS DEVELOPMENT PROGRAM FOR MIDDLE-GRADE READING?

O. C. Keesey,

Representative, Scott, Foresman & Co., Los Angeles, California

Not long ago I was talking with a Junior High School teacher who was having trouble with the lack of reading ability in her English classes. She was a good teacher, highly intelligent, and sincerely desirous of doing a good job. We were talking about the problems involved in teaching reading and she was decrying the lack of adequate materials for her pupils' reading levels. She finally turned to me and said: "Am I the only teacher with this problem?" And I had to admit I had heard the same complaints many times not only by Junior High teachers but also by the teachers of the middle grades. Becoming impatient, she blurted out, "Well, what's wrong with our teaching of reading that will allow perfectly capable people with ability to do such a poor job of reading?" Not wanting to get myself in a corner on such a "hot" question, I countered by asking her how much time she devoted to the teaching of the skills necessary for good reading. And this was her answer: "Skills? Why—don't they learn to read just by reading?"

Now, this attitude toward the method of teaching reading is not confined to the Junior High School. We find it quite prevalent among teachers in the middle grades, and there have been some studies that purport to prove that the essential habits and skills needed for effective reading can be established equally well, if not more effectively, by the so-called "incidental method." As long ago as 1930, J. L. Meriam¹ conducted an experiment in which he contended that: "Let pupils read to learn; incidentally they will learn to read." His data seemed to prove that a group taught according to the foregoing principle did better than children who received systematic training in reading. However, the comparability of the group can be held in question and the whole experiment was very loosely controlled, so that its validity as proof of his theories is very doubtful. Many educators who favor a highly integrated activity curriculum also favor the use of incidental procedures in teaching pupils to read. They present data which seems to indicate that those who follow such programs do about as well as those who receive systematic training in reading. It is unfortunate that most of these studies were loosely controlled and give us very little significant evidence of a specific nature.

On the other hand, Ida O'Brien² studied a group of fifth- and sixth-grade pupils and concluded that normal and bright children need only a minimum of "mechanical and remedial instruction" and that we cannot

¹Meriam, J. L.—"Avoiding Difficulties in Learning to Read," *Educational Method IX* (April 1930) pp. 413-19.

²O'Brien, Ida: "A Comparison of the Use of Intensive Training and of Wide Reading in the Improvement of Reading" *Educational Method X* (March 1931) pp. 346-49.

"depend upon interest and wide reading to increase the reading abilities of slow-learning children nor to overcome real reading difficulties of any children."

In more recent years we have the statement of Robert H. Lane¹ that, "A return to intensive (basic) reading as contrasted with extensive (supplemental and incidental) reading is strongly marked as a current trend. While the extensive reading program is alluring and does cater to child interest and child needs, it often fails because the child does not possess the basic reading skills needed to read the books he wants to read."

Speaking of the middle-grade problem particularly, Mr. Lane² says, "There is a firm conviction among teachers of the middle grades that all children who come to them should have mastered the mechanics of reading completely in the primary grades, and thereby those specific reading skills which make for effective reading. There are two flaws in this contention: first, as children mature, need arises for new specific skills in reading when the children are exposed to new types of reading materials; second, old skills can be kept alive only through continuous practice at regular intervals." I think he might have added as a third reason that many of the skills learned in the primary grades need to be refined and expanded, too, for use in middle-grade reading.

The middle-grade period is a particularly important one for the growth and development of reading habits. These are summarized very well for us in the 9th Research Bulletin of the National Conference on Research in English by Gertrude Whipple³ and her committee in "Reading in the Intermediate Grades." Some of these are pertinent to our problem of teaching reading skills at this level. For instance, the rate of silent reading begins to exceed oral reading and increases rapidly during the middle grades. Comprehension ability, too, grows rapidly during this period. Gray and Holmes pointed out in their study of the development of meaning vocabularies that the "period from nine to fifteen is particularly productive in the acquisition of meaning." In the N. S. S. E. 36th Yearbook on Reading they designate the intermediate grades as one in which "experience is extended rapidly and increased power, efficiency and excellence in reading are acquired."

In addition to all this we know from our own experience and from any survey of reading abilities in 4th, 5th and 6th grades that the spread of ability is ever widening; from the pupils who are practically just beginning to read at one end of the scale to those at the other end of the scale who have a reading ability of adults. It becomes the duty of the intermediate teacher to provide instruction for this wide range of abilities—and at the same time have a growing and developing program for each individual child in her group. This is a Herculean task and one which will challenge the bravest and strongest of our group.

So you say: What can we do? How can we meet this problem? How

¹Lane, Robert H.: *The Principal in the Modern Elementary School*—Houghton Mifflin 1944, p. 193.

²Lane, Robert H.: *The Principal in the Modern Elementary School*—Houghton Mifflin 1944, p. 191.

³*Reading in the Intermediate Grades*—Ninth Research Bulletin of the National Conference on Research in English—Gertrude Whipple, Chairman—1941.

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can we teach a skills program on such a wide scale? How can we provide adequately for individual differences and at the same time provide a program that allows for the development of the social qualities inherent in the reading of the middle grades?

To begin with, let us admit that there is no "cure-all" for our problem. There is no panacea which can be administered and which will provide a magical formula which will make all the desired changes in our pupils over night. But admit at the same time we must, there are some things we can do in our classrooms that can make a difference and can help our boys and girls grow and develop in reading power and ability. This means that we must become aware of the skills and abilities needed by our pupils, and then take steps to provide a definite program for their development. They will not develop incidentally or accidentally—they have to be taught—and teaching them pre-supposes a program of development.

Such a program can be provided only if the teacher understands what skills are needed for growth in the power to interpret what is read on the printed page, as well as some idea as to how those skills might be developed with her pupils. It is amazing to see how many middle-grade teachers are unaware of the many different skills involved in the reading act. Most of them are aware that there must be comprehension of what is read, but if asked to enumerate the specific items that go to make up the general concept of comprehension they would probably be unable to do so. They are not to be blamed too harshly for this, since most of the exercises found in middle-grade readers ask the pupil to find the topic sentence, to give the central thought or general idea, or to find a detail that answers a specific question. Of course this is all comprehension, but what do you do if the pupil has difficulty in getting the central thought, for instance? How do you go about teaching pupils to do the necessary things to develop better comprehension? This is the weak point in the average middle-grade reading program and one which is beginning to get some attention from the experts. We have done a lot more for the primary teacher in the way of providing specific help in the building of reading skills necessary for developing reading power. It is only recently that we have given the problems of the middle-grade teacher the same sort of help we have given to the primary problems.

At the reading conference at the University of Chicago last summer it was most encouraging to hear a man like Paul McKee say of middle-grade reading methods: "Definite lessons should be taught for the purpose of equipping the child with reading abilities needed in working out independently the meaning of a word, a sentence, or a paragraph, whose meaning is not clear. These lessons will be just as definite and tangible as lessons in borrowing in subtraction, in estimating quotients in long division . . . or in working out the name or pronunciation of a strange printed word. They will give the pupil an understanding of the meaning and importance of the skills being taught and will provide needed practice in using those skills."¹

So let us take a look at the problem of teaching middle-grade reading

¹McKee, Paul: "Developing Competence in Grasping Meaning in the Middle Grades," *Reading and Relationship to Experience and Language*. University of Chicago Supp. Ed. Monograph #58.

with the idea of providing a program of skills development that is adequate to develop power to interpret what they read. After all, the end-product of reading is interpretation. When we read we want to find out what the author is trying to convey to us.

During the primary years the reading materials are limited to the areas of experience of the child. It is no accident that all the reader materials of the primary grades deal with stories of father, mother, dogs, cats, and other interests of children. They were made that way—and the primary teacher uses these interests of her pupils as the basis of the reading program. The reading act, therefore, is the interpretation of words and interests of familiar ideas and things.

The middle-grade teacher, however, has a somewhat different problem because their reading materials are about people, places, and things that the child may not have seen or experienced directly. The interpretation at this level, therefore, is concerned with words and sentences about unfamiliar ideas and things. Dr. Gray of the University of Chicago has called this *creative* interpretation to differentiate it from the experience reading of the primary grades. Thus the reading of the middle-grade program calls upon the child to create mental images of places, people, and things he has never seen and to experience vicariously activities that he has never experienced directly. Reading thus becomes a means through which children gain rich worthwhile experiences that are not available to them directly, and the middle-grade teacher's responsibility for teaching, maintaining, and improving the skills needed to read on a creative level is a most challenging one, and quite as difficult as that faced by the primary teacher in the initial period of reading instruction.

We have been speaking rather generally, thus far, of the problem of interpretation as it applies to middle-grade reading. Although interpretation at any level is a unitary process and takes place through a complex interplay of many factors, let us try to analyze some of the more specific factors involved and see how we might help our pupils develop these skills toward the end of having greater power in interpretation.

Some of these factors that we shall discuss are:

- (1) Recognizing words and attaching appropriate meanings to them.
- (2) Comprehending accurately the thought represented by the words on the printed page.
- (3) Reflecting on the essential facts and ideas presented, evaluating them critically, and discovering relationships.
- (4) Applying ideas gained from reading to life.

WORD PERCEPTION

I am sure we will all agree that efficient word perception is basic to interpretation. The reader's grasp of the general meaning of a given passage is dependent upon his ability to recognize and associate meaning with the words used. For example, even the most competent reader here would have trouble in grasping the meaning of the sentence, "Some animals estivate" if he does not associate some meaning with the word "estivate."

The teacher of the middle grades can expect, of course, that training in the earlier grades will bring pupils to her with some skills in word perception. It is the first duty of the teacher at each grade level to

maintain, and re-teach, if necessary, any and all skills taught in previous grades and then build her program of skills development upon this base. Thus the first job is to become acquainted with the skills program taught in the primary grades.

Many studies have shown us the importance of a rich meaning vocabulary for success in reading and interpretation. Therefore, it is important that we are always alert to opportunities for enriching and extending word meanings. Of course all new activities of pupils present many opportunities for vocabulary development, and the alert teacher will grasp every such chance to build meaningful vocabulary through such direct experiences. A fifth-grade group in summer school who went on a science field trip with a geologist came back using such terms as sedimentary, igneous, quartz, and limestone with a sureness that convinced one of their knowing the meaning of these terms.

Often, of course, it is not feasible to arrange for children to have direct experiences to develop meanings for all words needed in middle-grade reading. In such instances it may be possible to use children's past experiences to help in clarifying and building meanings for unfamiliar words. Take a word like "cascade," which might be given meaning through children's past experience or knowledge of waterfalls, and by explaining that a cascade is a small waterfall. Visual aids such as pictures, models, slides, movies, or exhibits can often be used as a means of enriching the pupils' meaning vocabularies.

A particularly challenging problem of the middle-grade teacher in this respect is the building of meanings for such abstract words as loyalty, courage, democracy, etc. Often these abstract words may take on meaning for the child through concrete examples from stories of real-life situations. Here is where good story material can be used advantageously to help build meanings for words that we use as symbols for attitudes, appreciations, and abstract ideas. For instance, a keen story about a boy who was loyal to a friend in trouble might be used as the basis for a class discussion to give meaning to the word "loyalty."

Another important area of word perception for the middle-grade reader is the comparison of words to note how the various shades of meaning can be expressed through careful or exact choice of words. For example, children may be led to infer the exact meaning of the word "chortle" by comparing its use with "laugh," "smile," and "chuckle." They should be encouraged to compare the shades of meaning expressed by each of these words and to suggest context in which each would be particularly appropriate. Rich meaning vocabularies can also be promoted through opportunities to use and study synonyms and antonyms. Time must be provided in the middle-grade program for exercises such as the above.

Right here let me inject a word relative to the semantic shifts that will be encountered in middle-grade reading. Unless we are particularly alert in this respect we will find our pupils getting many mistaken notions in their reading. Just recently an alert fourth-grade teacher became suspicious that Billy was not getting the meaning of a sentence that said, "The man gave the boy a blow over the head." Now, there are no particularly difficult words here—but the suspicious teacher asked Billy to

illustrate the sentence upon her head—and when Billy came forward he puffed his cheeks and blew across the top of the teacher's head. Thus Billy illustrated that he did not have sufficient meanings for the word "blow." Children will be confused by such shifts in meaning unless they are made fully aware of the possible variability of word meanings, and unless they are taught how to attach the meaning that harmonizes with the sense in which it is used. Varied meanings for words should be presented through discussion and oral explanations as well as in specific exercises. Also boys and girls should be taught how to select from several definitions in the dictionary the meaning appropriate to the passage in which the word in question appears.

Another difficulty encountered by the middle-grade reading program is the use of much figurative and idiomatic language. Boys and girls must learn to interpret such expressions as "keep your chin up," "turned over a new leaf," and many others like that. They must learn that words do not always mean what they say literally. They must be taught the skills of inferring the intended meaning from the context. If they learn this skill, they will be able to better read the selections of literature presented in Junior and Senior High School, for literature is full of figurative and idiomatic language.

Less specific but equally important to the development of reading power is the stimulation of pupils to be curious about the new and unknown words they encounter. All of us are continually running into such words in our reading and listening and they can be made a most interesting part of a reading program at middle grades. As we have already suggested, pupils should be taught how to infer the meaning of such words from the context. But they should also be given definite training in the use of the dictionary to obtain the meanings of unfamiliar words, or to check upon inferred meanings.

The dictionary should be one of the most useful tools in helping the middle-grade teacher build a more adequate meaning vocabulary. Yet, how many teachers of 4th, 5th and 6th grades make the most effective use of this helpful instrument. Part of the difficulty is due to the fact that so many teachers do not take the time to teach their pupils how to use the dictionary, and until this is done the average pupil will not find it an easy and convenient tool to use. In every middle-grade reading program we should have definite lessons in locating entries, selecting the appropriate definition, syllabication, accent, phonetic respelling, diacritical marks and the use of a pronunciation key. These lessons should be carefully worked out and graded so that they culminate in what might be termed the dictionary habit, in which the child goes to the dictionary for the help he needs with new and unfamiliar words.

Just this year, 1945, there has been published a beginning dictionary for use in the fourth grade or wherever definite dictionary work is started.¹ In this new dictionary the first 85 pages are given over to a series of lessons designed to teach the skills necessary for effective use of the dictionary. This should be of great help to the middle-grade teacher in providing her pupils with the important dictionary skills.

¹Thorndike-Century Beginning Dictionary—Scott, Foresman 1945.

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But oftentimes the reader runs into a word that he does not recognize through his eyes—and yet if he had some way to unlock the sound of it he would recognize it through his ears. In this respect the studies make it clear that the good reader uses a variety of methods to help him recognize new or difficult words quickly, accurately, and independently. In this respect Gates studying the defects of visual perception among children reports in his book, *The Psychology of Reading and Spelling*:¹ "The poor readers usually have no satisfactory method of attacking a new or difficult word. Many of them were quite helpless when they could not recognize the word correctly at a glance."

In addition to the use of context and meaning clues which we have already mentioned the middle-grade teachers will need to develop the abilities of her pupils in the use of word form clues, structural clues including the principles of syllabication and accent, phonetic clues, and the use of a glossary or dictionary. In a general discussion of this kind there is not time to deal with the methods used to present and develop these aids to word recognition. Suffice it to say that no middle-grade reading program can be complete without providing enough help to the pupil in developing the skills of word recognition so that he will become independent in his ability to attack the new words that he meets in his reading. As pointed out by Judd a long time ago, "unless the school trains the pupil to work out his words systematically, he will do it badly and will exhibit confusion."

However, we can not pass by the subject of phonetics without a word about its use. For years we have had a division of opinion as to the value of the teaching of phonetics in our reading program, to put the matter mildly. The battle was waged loudly and long but not too well. Studies by Buswell, Currier and Duguid, and Gates all show the value of phonetics for word recognition but also show that it can be overemphasized. These studies also show that a complete absence of phonetics also causes an inability to unlock words. Recently, Dr. Gray of the University of Chicago has shown that although phonetic skills are more valuable to the middle-grade reader because of the many new and unfamiliar words that he meets in his reading, yet often the kind of phonetics taught at the primary levels are not applicable to the unlocking of these words at the middle-grade levels. For example, if the phonograms are taught in the lower grades they work nicely with single-syllabled words. But when applied to poly-syllabic words they are a hindrance rather than a help. Take the phonogram "ad" as it appears in words like had, bad, sad, etc.; it seems to work perfectly. But when this pupil who is trained on the phonograms runs into the word "ladle" for the first time you can see for yourself what effect his earlier training has on his pronunciation. It is very likely that any system of phonetics will have its exceptions, but certainly we should not teach a system in the lower grades that has to be unlearned in the middle-grades just when they are most in need of help to unlock new words. For this reason, among others, Dr. Gray recommends the use of a system based on the sounds that letters or groups of letters usually make. Such a system

¹Gates, Arthur I. *The Psychology of Reading and Spelling*. Teachers' College Contributions to Education No. 129—Columbia University 1922.

can be started in the primary grades and carried on into work with syllables in the middle grades, and culminates in a dictionary readiness program based on the skills taught at lower levels.

Since phonetics is valuable in helping children to unlock the words that they recognize through their ears but have not learned to recognize with their eyes, the first step in phonetics training is ear training or what Dr. Spencer calls "aural reading." Next the sound and the symbol are taught together and then comes the application to reading of words and syllables. These steps are taken for the consonant sounds first, then with the vowels, and after a thorough understanding of these phonetic elements, the phonetic principles are developed which are later applied to words and syllables. At the same time the child is taught silentness, variability, and accent in addition to the phonetic principles. As you can see all of this can be used to introduce the skills necessary for the use of a pronunciation key in the dictionary work of the middle grades. And there is nothing that has to be unlearned at a higher stage in the development. On the contrary, everything is fit together as a complete program that can be developed from grade to grade. In this way there is purpose in maintaining the skills learned in the primary grades and an ever growing power to unlock new words independently.

COMPREHENSION

Although comprehension as a general thing is recognized by most teachers as a necessary and important factor in interpretation, yet, as has been pointed out many middle-grade teachers are not aware of the skills necessary for good comprehension nor of the methods to be used to develop comprehension ability in reading. This is not altogether the teachers' fault since among the many studies that have been made in this area of reading there is not too much help in methodology. This has been largely true because of the nature of the thing we call comprehension. It is quite generally agreed that the processes involved in reading vary with the purpose of the reader, and since this is true comprehension in its broader sense includes many interrelated and complex processes. And up to now there has been very little done to determine the methods that teachers might use to develop power in reading for different purposes.

Gates and Van Alstyne,¹ in their study of the general and specific effects of training in interpretation come to these conclusions: "First, it is apparent that instruction and practice in reading in a general way—mere reading—does not guarantee the development of all the important types of reading ability; indeed it almost certainly will not do so. Second, while transfer from one type of reading to others is genuine and usually positive, it is so small that it cannot be depended upon to develop the desired abilities. They must be developed specifically. We may accept with gratitude the increments from transfer; but never be willing to accept them as a substitute for direct training."

The implications involved in the foregoing paragraphs for the middle-grade reading program seem to be quite clear. First, the program should

¹Gates and Van Alstyne: "The General and Specific Effects of Training in Reading with Observations on the Experimental Technique"—Teachers' College Record XXV (March 1924) pp. 98-123.

provide all kinds of reading so that the pupil will have an opportunity to read for many different purposes. Many of the middle-grade programs have tended to center their interest in the field of social studies and this in turn tends to limit the kinds of reading involved. Secondly, to help the child develop his ability to interpret different kinds of reading material on subjects that are not a part of his immediate experience it is necessary to provide an enriched background of experience and develop the ability to visualize persons, places and events described in the reading.

The most important aid to developing comprehension at middle-grade levels is the discussion period that develops as a result of the reading by a group of the same material. To be effective this demands that the teacher ask genuine thought questions, and it is at this point that so many teachers fail in providing the help that pupils need to develop the thinking that is an integral part of the reading act. How many times have you heard the teacher ask a class to answer the questions at the end of the story? Usually these questions center the children's attention on unimportant and isolated facts which can be answered in the direct words of the book. Children may find these answers and repeat them in the author's words, but in reality they may be wholly unaware of their meaning. Activity of this kind is not training in research or in comprehension. It is training in superficiality because it results in emphasis on reading for sentence meaning alone instead of reading in the light of the broader context.

In order to get away from this mechanical type of reading instruction one of the new sets of readers for the middle grades has removed all of the questions and exercises from the pupil's book and instead has put suggestions for many thought-type questions for discussion in the lesson plans of the teacher's manual. In this way the teacher can give the pupils the help they need for improving comprehension skills right at the time they are doing the reading. It also gives a much better chance for the teacher to check on word meanings and word recognition skills right at the time the pupil is using them. The primary teachers have been doing this sort of teaching of reading for some time and find it most effective for the development of reading skills. But if you would talk with middle-grade teachers as I have this past year you would be amazed at the number of them who will not accept a program of books for the teaching of reading in their classes that does not have the old familiar questions at the end of the stories. They will tell you one minute that they would welcome some help in the problem of doing a better job of comprehension, and in the next minute they are telling you they couldn't possibly use a book that did not have the questions (and the answers, too). We cannot hope to get very far in developing better reading habits in our middle grades until the teachers are willing to put forth the time and effort necessary to teach the skills necessary for interpretation.

In this connection it might be well to mention the subject of workbooks and practice-type materials for use at middle-grade levels. There has been much comment pro and con concerning the use and abuse by teachers of commercially-made materials, in the work of their classes. Some have even designated them as "teachers' restbooks" rather than "pupils' work-books." It is extremely unfortunate that the arguments for and against workbooks have been made in general terms against the group as

a whole. Even a cursory examination of different workbooks will reveal the wide variations in the usefulness of the material. Just because some workbooks are poorly made or even poorly used by teachers does not seem to be a valid argument against that type of material in its entirety. It would be just as wrong to indict the whole field of visual aids in teaching just because some were inadequate or used improperly by teachers.

We shall not have time to discuss the specific arguments for and against workbooks at this meeting. Umstaadt¹ in his book, *Secondary School Teaching*, has a chapter that gives a rather comprehensive treatment of the subject of workbooks. Although it is written primarily from the point of view of the secondary school, yet much of the material is equally applicable to the situation of the middle grades as well.

Burton² in his recent book, *The Guidance of Learning Activities*, makes a distinction in the types of workbooks that are in use by schools that is pertinent to our discussion here: He divides them into two classes—the first type which is essentially a textbook for self-instruction by the pupil, and the second type that is designed primarily to provide practice or drill materials. In the past most reading workbooks at middle-grade levels have been largely concerned with checking the child's comprehension of material and his recognition of the vocabulary of the reading he has done in a particular book. This would be the second type mentioned by Burton. The new workbooks in reading are of the first type. In this new type of workbook material the teacher is given an instrument containing the exercises or lessons which will help her present and teach the skills needed for effective interpretation. Each exercise or lesson is made specifically for teaching or re-teaching a reading skill. The exercises are not "busy work," but carefully prepared teaching instruments. Such lessons can be used to develop meaning vocabularies, organization of ideas, the recognition of relationships, the use of phonetic analysis and structural analysis, and many other skills necessary for good interpretation in reading. In the best ones the material used is entirely new material and is not a review or "re-hash" of the material read in the book. At the same time the vocabulary used, the skills presented, and the topics used are the ones which fit the reading he is doing in his reading book. In this way there is a correlation of the workbook with the reading being done in the textbook. However, I have seen many schools use the new-type reading workbooks entirely independently of the reading book itself for the purpose of teaching reading skills. An unpublished study made recently by middle-grade teachers in a southern California town found that although they were using one set of readers for their basic reading instruction, they could get better results in the teaching of reading skills by using a set of the new type workbooks than the ones that were made to go with their particular basic books.

I can hear some supervisors say—"But why can't the teacher make her own work-type materials, so that they will more nearly fit her own particular pupils?" Speaking now as a parent, I would like to say that I am becoming more and more impatient with supervisors who are not more

¹Umstaadt, J. G. *Secondary School Teaching*—Chapter 8. Ginn & Co. Boston 1937.

²Burton, William H. *The Guidance of Learning Activities*, page 405. D. Appleton-Century Company, New York, 1945.

³Ibid. p.

considerate of the teachers' time and energy. There is a limit to the energy which a teacher has and I think it is far more important that the teacher of my son come to her class in the morning refreshed and eager for the job of the day. She cannot face her classes with the enthusiasm necessary for good teaching if she has had to spend night after night preparing materials which can be easily and inexpensively provided for her. It is indefensible for supervisors and administrators to ask teachers to make their own materials for instruction *unless* adequate time is provided during the working day for the creation and preparation of such materials.

There is another side to this problem that should be raised here, too. Most teachers are not creative enough to "dream up" the material necessary for good practice material. In the editorial offices of the companies making these materials, it takes hours of hard work to make just *one* good exercise, and then it is evaluated and torn apart by the group during the evaluation process. Then it is re-written and re-evaluated until after many hours of work the exercise appears as you see it in the workbook. Speaking again as a parent, I would much rather take the chances connected with having my son provided with materials made by experts than any of the "home-grown" variety that might be made by the teacher.

There is one other side to the problem of providing practice material for the teaching of reading skills. Burton makes a useful distinction between what he calls the *integrative* and refining phases of practice. The integrative phase is the practice provided for learning a skill, and the refining phase is the practice provided for increasing proficiency in the skill. He says:¹

"The *integrative* phase of skill learning in which meaning is developed demands *varied* practice which means many functional contacts and exploratory activities. The *refining* phase in which precision is developed demands *repetitive* practice. Varied practice by itself yields meaning but not proficiency; repetitive practice by itself yields efficiency but not meaning. Competent varied practice in early stages will reduce greatly the amount of repetitive practice needed later."

If a teacher is aware of the difference in practice material, and is also aware of the needs and development of her pupils, she will not make the error of allowing pupils to engage in integrative practice for learning skills by themselves, but will supervise carefully the work at the learning stage. This is very important, and middle-grade teachers should be made aware of the fact that their pupils, too, are learning new skills and must be ready to take time out of the reading period to teach those skills and supervise the practice material during the learning period.

This brings up the problem of organization of the reading period so as to provide as much time as possible for the teacher to work with individuals or small groups on their particular problems. This is a particularly difficult problem at middle-grade levels because of the wide spread of reading abilities and the limited time in which to provide for instruction by reading groups as is the usual practice in the primary grades. The committee of The National Conference on Research in English

¹Ibid. p. 397.

in their Ninth Research Bulletin on *Reading in the Intermediate Grades*¹ made a summary of the plans used at middle grades for handling ability groups of children for reading instruction. They list three plans that have been used together with the advantages and disadvantages of each plan. Plan #1 has all the reading classes in a school scheduled for the same hour each day—and all of the pupils of the same reading ability, as determined by standardized reading tests, are placed in the same class. In plan #2 the pupils remain in their own classroom, but each pupil, or small group of pupils, uses a different book according to his reading ability. In the third plan, the pupils are grouped according to reading ability and the reading of the whole class is organized around a core subject. After an introduction with the whole group the various sub-groups are assigned appropriate materials for their abilities. The teacher then works with different groups in turn on development of reading skills and from time to time opportunities will be provided for sharing reading experiences with the whole group. At these times pupils of differing ability will have opportunity to make a contribution to the whole group, since they will all be reading on the same topic, but on different levels of ability. Thus the poorer reader will have something to contribute as well as the good readers, and will feel himself a part of the whole group, which is quite essential for middle-grade boys and girls.

It is this third plan which is recommended by the Committee of the National Conference on Research in English, as well as by the 36th Yearbook of the N. S. S. E. on *The Teaching of Reading: A Second Report* (p. 347). The Committee on Reading in the Intermediate Grades says:²

"This third plan is, in the judgment of this committee, a highly desirable plan for use in the intermediate grades. The organization of reading materials in terms of interesting problems stimulates consecutive thinking on the part of pupils and provides for enough vicarious experience in a given area to broaden the child's mental outlook and to suggest motives for his reading . . . Extensive use of this third plan in the schools of many cities also shows that, properly employed, it has marked value in improving the reading program." It should be noted, however, that such an organization will require the teacher to make adequate preparation and collect suitable materials in advance of their use or to use some reading program that has previously been worked out on this plan, such as is done in the new middle-grade program by Gray and others.³

One of the problems that plague the middle-grade teachers of reading most of all is the problem of providing for individual differences in any program. With large classes and heavy schedules of work it is difficult for the teacher to find the time to give each pupil the help needed to develop the skills we have been talking about. Taking the time to make a survey of her pupils' abilities and needs early in the year will pay handsomely in helping the teacher to spend most of the time during the year on the points of greatest need of each group. Most of the surveys suggested by the

¹*Reading in the Intermediate Grades*—Ninth Research Bulletin of The National Conference on Research in English, Gertrude Whipple, Chairman, pp. 17-18.

²Ibid., p. 18.

³See Teacher's Editions of *TIMES AND PLACES* (Grade 4), *DAYS AND DEEDS* (Grade 5), and *PEOPLE AND PROGRESS* (Grade 6).

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literature are much too difficult and comprehensive for the average teacher to attempt. Where the school provides help in testing and complete individual records, the middle-grade teacher will be wise to avail herself of the help such records can give her in planning her program for teaching reading skills. When such expert help is not available, the teacher should provide herself with some simple check list of reading skills with which to diagnose her pupils to determine their needs. Such a check-list is provided by Gray¹ in his new middle-grade program. After surveying the pupils' needs the teacher can then use the material of her reading program to develop the deficiencies that show up on the diagnostic survey chart. Here is where the right kind of workbook material is very helpful and the right kind of teacher's manual will give the teacher much help in providing suggestions and material for practice needed to build the reading skills. Every reading lesson will provide many opportunities for the teacher to teach the skills necessary for intelligent interpretation—and the wide-awake and intelligent teacher will take advantage of these opportunities to help those pupils that need help. In this way the reading program will become more effective in helping our pupils to become better readers.

Many middle-grade reading programs have been content to limit their work to word perception and comprehension. However, if we are to think of the reading process as interpretation, we should include two additional aspects: (1) reflecting on the essential facts and ideas presented, evaluating them critically, and discovering relationships between them; and (2) applying ideas gained from reading to personal and social problems. Thus the intermediate teacher has the additional opportunity in the reading program to teach her pupils the skills necessary for critical evaluation and application of the ideas which are presented on the printed page.

REACTION TO MATERIAL READ

To react to the material read the child must not only clearly grasp the author's meaning. He must think about, evaluate, and respond to these ideas and to the style in which the ideas are presented. He must reflect upon the ideas, relate them to his own, comparing and contrasting them and possibly even becoming emotionally stirred by them. In this way reading will come alive for the child as he develops his ability to respond actively to what he reads.

And right here is where we run into difficulty with the traditional "exercises and questions" so often found at the end of selections and "units" in the average middle-grade reading program. Questions that generate critical thinking about what has been read are not easily evolved and cannot be answered conveniently in written form. They do not lend themselves to the short-form written answers that teachers like to see. Although skillfully prepared exercises or workbook materials will contribute to the development of the type of thinking required to make inferences and judgments, complete reliance should not be placed on exercises alone. Exercises too often offer little or no opportunity to share ideas with others and thus modify the evaluation as a result of the sharing process. The

¹See Diagnostic Survey Charts for use with *TIMES AND PLACES, DAYS AND DEEDS, and PEOPLE AND PROGRESS*.

greatest growth in the ability to think clearly and to react intelligently to what is read will come through carefully planned oral discussion. The teacher should raise challenging questions which will allow for a diversion of opinion. Then through the pooling of the judgments of many, and the recognition of inappropriate judgments, the modification of personal conclusions will be brought about, which will in turn bring about growth in the ability to critically evaluate what is read.

Right here I'd like to digress for a moment to speak of rating sheets for middle-grade reading programs. Not long ago I had occasion to see some of the evaluations on the current state text adoption here in California. Teachers were being asked to rate the various books being presented on the basis of a rating sheet where each item was worth a certain number of points, the total number of points for all the items amounting to 1000. In this particular instance the enterprising supervisor had decided to include a number of books that were not being considered for state adoption, but which he considered good books for middle-grade reading. In this way he hoped to get a comparison with some material with which he felt familiar. He handed the rating sheets and the books out to all his teachers of 4th, 5th, and 6th grade—and the results were most interesting and enlightening. One series, having none of the traditional questions and exercises in the book itself (that material being in the manual), had been rated zero by many teachers on the provision for teaching skills. Another book, having very little reading but many exercises, was rated very high, although almost all of the exercises were of the simple comprehension type. Very few of them could have been rated as providing for creative interpretation. The supervisor told me he was quite sure that many of the ratings were made by teachers who took very little time to examine the books or the manuals. Such was the result of an attempt by a supervisor to allow the teachers to help in choosing the materials to be used by them. If teachers are to have the privilege of having some voice in the choosing of materials, then they should be willing to admit of the responsibility connected with that privilege and make every effort to be worthy of that responsibility. And in their ratings they should look for the program that offers help in developing an interpretation in which there is opportunity for reaction values.

APPLICATION OR USE OF MATERIAL READ

It is not enough for children to comprehend, to think about, and to react to the author's ideas. They should take a further step and make some application of the ideas gained through reading to their everyday living. The teacher who senses the need for helping children use information gained in reading to satisfy their intellectual curiosities and enrich their concepts may not always sense the more subtle values reading can have. Through reading, it is possible for the child to receive help in clarifying his personal goals and ideals; through reading, he can be aided in developing attitudes toward consideration for others, fair play, love of truth, and other desirable social and personal characteristics.

In order to accomplish this, the teacher must be able to choose the kind of reading that has in it situations that might parallel the situations in which children might find themselves in real life. Then if the teacher

is able, by skillful questioning and discussion, to bring out the parallelism so that the pupils in her classes would go out on the playground and actually choose the difficult but honorable course of action, the highest level of interpretation of the reading has been achieved. I was thrilled recently to sit in a class of Mexican boys and girls and listen in on a reading lesson being conducted by a master teacher. Here were a group of older boys and girls having difficulty with the ability to read quite simple material. It was a very simple story about a boy who had willingly given up his chance to go to town with the others because he chose to stay home and care for a sick dog. After Jose had stumbled through the oral reading of the lesson, the teacher asked the class to close their books and then said: "And what would you have done, Jose, if you had been in this little boy's place?" The discussion that followed by the class was enough to bring a lump into my throat as those over-age boys and girls talked about the important values in life. I felt like I'd been to church and heard a great sermon. Such is the opportunity that awaits the teacher of middle-grade reading who is willing to take time out to develop some of the deeper values that can come from reading. But such values do not come from just reading around the circle day after day, nor from just reading! They are developed as a result of day by day searching for those deeper applications to everyday living.

I wish I could challenge every middle-grade teacher with the glorious opportunity she has for helping the boys and girls in her room to develop the necessary skills and abilities to enjoy and profit from the reading that all of them could do if only they could have a teacher who could open up the door for them. Unless you, as a teacher, do it for your pupils, they may never experience the joys that can come from exploring the world of the printed page.

Just recently I picked up the Fullerton Daily News-Tribune and on the front page at the top of a column by Harry Lee Wilber were these words that I'd like to leave with you as my conclusion:

"Wisdom is knowing what to do next
Skill is knowing how to do it
Virtue is doing it."

THE VOCABULARY BURDEN OF CLASSROOM INSTRUCTIONAL SOUND MOTION PICTURES

Dr. Joe Park,
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The vocabulary burden of class room instructional sound motion pictures has been recognized and discussed since 1930, the date when sound motion pictures were first introduced into the schools of the United States. However, the nature of the burden and its influence upon the learning of the content presented has been subjected to study only since 1940.

I. RESEARCH

Among the first to discuss the possible vocabulary difficulties of films was Dale. In 1932 he made a comment on this point in his list of standards for the selection of classroom motion pictures. The fourth among six standards read, "Will the film be satisfactorily understood?" In his elaboration of this point the author maintained that "one must . . . scrutinize the titles or the vocabulary used in motion pictures to see that they are not beyond the abilities of the children who are using them."¹

One year after the Dale "Standards" were released, Einbecker made public a study, in which he made a reference to what he considered to be one of the "disadvantages of talking pictures" namely . . . "the difficulty of learning new words through hearing them pronounced by a strange voice."²

About the same time, Devereux³ undertook to survey thoroughly the motion picture with regard to its production, merits, possible application, and the most desirable conditions of its use. However, this ambitious undertaking did not allow the author to do any research on possible vocabulary difficulties. His only comment directly concerning the vocabulary of the verbal accompaniment to sound motion picture was that "the speech or other sound must itself be clearly understood in order to make certain that the vocabulary is familiar to the prospective audience. Technical terms when introduced should be explained clearly, either by speech, by picture, or by both."⁴

Another reference to vocabulary has been made by Brunstetter. He reported that "in one elementary school the teachers at first considered certain films somewhat advanced for their pupils. They spent much time and thought, therefore, upon the problem of stepping down both the film content and the recorded speech."⁵

¹E. Dale, "Standards for the Selection of Classroom Motion Pictures," *National Elementary Principal*, XIII (June, 1934), 347.

²W. F. Einbecker, "Comparison of Verbal Accompaniments to Films," *School Review*, XLI (March, 1933), 190.

³F. L. Devereux, *The Educational Talking Picture*, Chicago: The University of Chicago Press, 1933.

⁴*Ibid.* p. 45-46.

⁵M. R. Brunstetter, *How to Use the Educational Sound Film*, p. 46. Chicago: University of Chicago Press, 1937.

The statement of co-authors of a recent book on visual education reads: "Nearly all films are prepared with the expectation that they will be used in more than one grade level. One of the major tasks of the instructor before presenting a film is to determine how its content can be stepped up or down to the desired grade. If a silent film is used certain words in the title may need explanation. This is just as true of spoken words if a sound film is used. The teacher will become more adept in adjusting films to the desired grade level as she becomes better acquainted with techniques of presenting films."¹

While these authors do not provide data to show that vocabulary difficulties do or do not exist, they assume that such difficulties exist. This assumption seems valid enough in the light of what we know of the reading vocabularies of pupils. However, their comments shed no light on the extent to which pupils encounter vocabulary difficulties in viewing sound motion pictures, or the influence of these difficulties on the understanding of the content of the films.

The first statistical data made available on this problem are presented in the study published by Gray in 1940. In discussing the narrative accompaniment to films for classroom use he reported a study which revealed to him that "at the time of the first showing of the film, eight of the thirty-five pupils said that they did not understand the meaning of all the words used by the film narrator. After the second showing this number decreased to six, and after the third showing the number decreased to three. No practical means were available for detecting the words in question. From such limited data sweeping generalizations do not seem warranted, but it appears safe to say that the narration vocabulary was understood by the majority of the pupils and the lack of understanding of words tended to decrease as the study of the unit progressed and additional showings of the film were made."²

Believing that further study on the subject of vocabulary difficulties of classroom sound films was needed, the writer began, during the school year of 1942-1943, a rather extensive investigation of the vocabulary difficulties of instructional sound motion pictures with the purpose in mind of finding at least partial answers to the following questions: (1) How does the vocabulary of the classroom sound motion picture commentary compare with the vocabulary burden of materials read by pupils? (2) Are the difficult words in the accompaniment to sound motion pictures carefully illustrated and defined as they are presented? (3) Do children know or learn the meaning of the difficult words? (4) What is the effect of vocabulary difficulties on the learning of the content of the films?

II. VOCABULARY BURDEN

To secure an answer to the first question, a complete word count was made of the verbal accompaniments to the classroom sound films: *Growth of Cities*, *Westward Movement*, *Chile, Brazil, China*, *Theory of Flight*, *Problems of Flight and Sunfish*. The first five of the eight were designed for use in the field of social studies, while the last three were produced for the science field. Following the count, the list of different words used in

¹H. C. McKown and A. B. Roberts, *Audio-Visual Aids to Instruction*, p. 174. New York: McGraw-Hill Book Company, 1940.

²H. A. Gray, "Pupil Evaluation of Sound Film Components," *Elementary School Journal*, XL (March, 1940), 511-12.

each film was compared with the Thorndike, *Teacher's Word Book*,¹ to determine the probable difficulty of the words and in turn the probable vocabulary burden of each film.

In spite of certain recognized criticism, the Thorndike list was used because it is one of the best and most reliable of its kind. It is widely used and does indicate words that are likely to be familiar to children.

Since the words of the verbal accompaniments were to be compared with the Thorndike list, they had to be tabulated as Thorndike had tabulated them. To accomplish the task of counting the words, tabulating sheets, resembling the illustration given below, were used to list, combine and count the words.

TABULATION SHEET FOR THE FILM *Sunfish*

A	B	C	D
a (14)	by (2)	can (3)	drive (1)
and (21)	bring (1)	chew (1)	deeper (1)
along (1)	but (9)	called (1)	dragon fly (2)
against (1)	back (5)	clear (2)	direction (2)
again (1)	body (2)	come (3)	does (1)
	balance (1)	completed (1)	dark (1)

Such a method of tabulating gave the total number of different words used. To find the total number of running words all the words used in the verbal accompaniment were counted separately.

After the list for each film was alphabetized, it was revised to correspond to the listings given by Thorndike. Then the Thorndike word level number was added after each word to indicate its probable difficulty.

Naturally these long lists of 300 to 500 words for each film had to be condensed in some manner to facilitate interpretation and understanding. This was accomplished by determining the number of different words for each film according to word level and estimating the per cent of different words in each word level for each film. The per cent of different words in the various word levels of the Thorndike list is shown in Table I.

¹Edward L. Thorndike, *A Teacher's Word Book of the Twenty Thousand Words Found Most Frequently and Widely in General Reading for Children and Young People*. New York: Bureau of Publications, Teachers College, Columbia University, 1931.

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TABLE I

PERCENTAGE OF DIFFERENT WORDS IN VARIOUS WORD LEVELS
FOR EIGHT FILMS¹

Film	Percentage of Words in First 1,000 Level	Percentage of Words in First 1,000 Through 5,000 Level	Percentage of Words in 6,000 Level and Above
Growth of Cities	44.8	79.8	19.9
Westward Movement	47.3	84.2	16.2
Chile	48.9	84.4	16.3
Brazil	54.5	85.8	14.3
China	55.1	86.3	13.8
Theory of Flight	55.8	88.5	13.9
Problems of Flight	50.3	81.8	18.3
Sunfish	67.1	87.7	11.9
Average	53.0	84.8	15.6

This table indicates that approximately one half of the different words used in the eight films are among the 1000 words Thorndike found to be most commonly used. The average per cent for the eight films was 53.0. More than three-fourths of the words were found to be among the 5000 most commonly used words while only 15.6 per cent were found to be in or above the 6000 level of the Thorndike list.

Unfortunately data on other films were unavailable, therefore, it was impossible to compare the vocabulary burden of these films with the burden of other films. However a comparison was made between the vocabulary burden of the films and the vocabulary burden of textbooks and comic strips. This was possible as considerable research has been done on the vocabulary of textbooks and comic books.

It will be apparent to the reader that no attempt has been made to make an exhaustive comparison of the burden of the films with that of textbooks. An exhaustive comparison has been avoided because the verbal element is always absent and the pictorial presentation frequently limited in textbooks.

Two comparisons will suffice. Curtis² and Powers³ found that high school children studying science and social studies began to manifest vocabulary difficulties as soon as they encountered words from the 7000 word level or above of the Thorndike *Teachers' Word List*.

This research suggested that high school pupils viewing films might find difficulty with words above the 7000 level. It would naturally follow, therefore, that elementary school children would likewise encounter difficulty in understanding some of the more difficult words.

A word count of comic books, which include the pictorial element of

¹Joe Park "An Analysis of the Verbal Accompaniment to Classroom Sound Films," *School Review*, LII (September, 1944), 420-26.

²Francis D. Curtis, *Investigations of Vocabulary in Textbooks of Science for Secondary Schools*, p. 57. Boston: Ginn & Co., 1938.

³O. E. Powers, *A Study of the Vocabulary of a Textbook in United States History*, p. 24. Unpublished Master's thesis, University of Michigan, 1938.

the sound motion picture, was available for comparison.¹ When compared, it was discovered that the vocabulary of the eight sound motion pictures differed little in vocabulary difficulty from the comic books.

Since children are known to read and to understand these comic books in grades four, five and six,² it would appear that children would be able to understand equally as well classroom films with verbal accompaniments of similar difficulty.

Therefore, in answer to the first question raised above, the data presented here indicate that when the vocabulary burden of films is compared with textbooks, that burden appears to be heavy. When compared with comic books, it appears to be light. Since the comic book and the film have the common element of pictorial presentation, an element absent from textbooks, the latter comparison is perhaps more justifiable and significant.

III. PRESENTATION OF DIFFICULT WORDS

To ascertain an answer to the second question, "Are the difficult words in the accompaniment to sound motion pictures carefully illustrated and defined as they are presented?", twenty-five of the most difficult words in each film were selected for careful study. The probable difficulty of the words had been determined by the position of the words in the Thorndike List. This position, it will be recalled, had been determined by the count. These same words were later used as the basis for a vocabulary test which was constructed for each film.

In studying these difficult words the first step was to locate the twenty-five words for each film within the narration. Then the films were reviewed to discover the manner in which the probable difficult words were presented. As this was being done, each word was classified in one of four categories:

1. Words defined in the verbal accompaniment and illustrated by pictures.
2. Words not defined but illustrated by pictures.
3. Words defined but not illustrated.
4. Words neither defined nor illustrated.

The results of this classification of words are given in the following Table:

TABLE II

PER CENT OF DIFFICULT WORDS DEFINED OR ILLUSTRATED		
Words	Number	Per cent
Words defined and illustrated	2	1
Words defined but not illustrated	0	0
Words illustrated but not defined	69	34
Words neither defined nor illustrated	129	65
Total	200	100

From the table it is learned that 129 or 65 per cent of the most difficult words were neither defined nor illustrated, 69 or 34 per cent were illustrated,

¹Robert L. Thorndike, "Words and the Comics," *The Journal of Experimental Education*, X (December, 1941), 110-13.

²Paul Witty, "Children's Interest in Reading The Comics," *The Journal of Experimental Education*, X (December, 1941), 100-04; also, "Reading the Comics—A Comparative Study," 105-09.

and only two were illustrated and defined. From these data it would appear that the per cent of difficult words neither defined nor illustrated is high. A careful analysis of the manner in which these difficult words, which were not illustrated or defined, were used revealed that many were tossed into the narration for no apparent reason. For example, in one film the narrator used the expression "commodious" to call the viewer's attention to the fact that the room being described was large and well arranged. Naturally, such unnecessary use of difficult words should be avoided by the producers of films. And, in those instances where they are used, teachers should be conscious of the fact and aid pupils in overcoming the difficulties which such words may present to the full understanding of the content of the film.

IV. LEARNING OF VOCABULARY

The third question to which it was hoped that an answer could be found was: Do children know or learn the meaning of the difficult words? To secure an answer to this third question, it was necessary to write and administer a vocabulary test based on 25 of the most difficult words for each film. Obviously time and expense would not permit the testing of pupils from each grade level, four through twelve, for which most of the films had been recommended by the producer. Therefore, it was decided to administer the vocabulary tests to the pupils in the grade levels at which the films would be most likely to be used. To determine the grade level at which these films would be most likely to be used, an attempt was made to discover the most common grade levels at which the content of these social studies and science films was being presented. For information on the grade placement of the subject matter, Wesley's¹ book and the two recent publications of the United States Office of Education² were relied upon.

After some consideration, it was decided to show the films and to test the pupils in the following grades:

SCHEDULE OF THE SHOWING OF FILMS

Name of Film	Grade Levels at which Film was shown
Growth of Cities	7, 11 and 12
Westward Movement	8, 11 and 12
Chile	5, 7, 11 and 12
Brazil	5, 7, 11 and 12
China	5, 8, 11 and 12
Theory of Flight	8, 11 and 12
Problems of Flight	8, 11 and 12
"Sunfish	4, 5, 6, 7 and 10

The number of pupils in each grade level seeing each film averaged about 40. Eight hundred forty-two pupils from twenty-two classes from the Evansville, Indiana, Public Schools saw the films and were tested.

¹Edgar Bruce Wesley, *Teaching The Social Studies*, p. 49-50. Boston: D. C. Heath and Company, 1942.

²N. L. Englehardt, et. al. *Education for the Air Age*, p. 14 and 21; and Robert H. Hinckley, *Air Conditioning American Youth*, p. 23. These two pamphlets were published in May, 1942, and may be obtained from Aviation Education Research Project, 525 W. 120th Street, New York, New York.

³The film *Sunfish* was shown at the grade levels arbitrarily determined by the writer.

The vocabulary tests were carefully constructed and much effort was expended in establishing reliability and validity for each test. The test results were supplemented by data secured by means of a questionnaire. The tests were administered before the pupils saw the films and were repeated immediately following the viewing of the films. The questionnaire immediately preceded the final administering of the vocabulary tests.

By means of the questionnaire it was discovered that the majority of the pupils did not believe that the films contained many "hard words." However, to rely on the questionnaire would have been unwise inasmuch as it had been found by Bear and Odber^t that "the average student's insight into the extent of his word knowledge is faulty" and furthermore that there is evidence to indicate that "the pupils most in need of vocabulary enlargement are too often the students least likely to realize their need or to appraise their limitations correctly."¹ Therefore, the tests were used to supplement the data gathered by means of the questionnaire.

From scores made on the tests it was found that the pupils usually knew about one half of the difficult words before seeing the films. However, the range and standard deviations indicated a very widespread difference among pupils as to their knowledge of the meaning of the difficult words. When the mean scores for the different grade levels were compared, a consistent rise by grade levels could be observed. This rise, of course, would be expected. Thus it became evident that the children believed, after having viewed the film, that they did not encounter many difficult words; however, the results of vocabulary tests, given before the showing of the film, revealed that, on the average, the pupils knew only about half of the 25 difficult words.

The individual test items of the vocabulary tests were then analyzed to discover the words on which pupils made significant gain. This was done to determine whether pupils registered significant gain on those words which were defined and illustrated or defined or illustrated.

The significance of the gain of the knowledge of the meaning of the words was estimated by listing the per cent of pupils who knew a particular word before and after having viewed the film. The difference between the two percentages was then determined. By applying the formula of finding the square root of the sum of the product of $p^1 q^1$ divided by N and the product $p^2 q^2$ divided by N^2 the significance of the difference of the two percentages was obtained. When this had been done, the words on which significant gain had been registered were then listed with word levels, frequency of occurrence, film and grade level being given. The listing is set forth in Table III.

¹Robert M. Bear and Henry S. Odber^t, "Insight of Older Pupils Into Their Knowledge of Word Meanings," *School Review*, XLIX (December, 1941), 749.

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TABLE III
Words on which Pupils Made Significant Gain
After Viewing Film

Word	Word Level	Frequency	Film	Grade Level
Traditional	12	1	China	5
Filmy	14	1	China	8
Filmy	14	1	China	11 & 12
Conveyor	Over	1	Brazil	5
Rio de Janeiro	17	3	Brazil	7
Sao Paulo	Over	1	Brazil	7
Valparaiso	19	1	Chile	5
Yaw	20	5	Th. of Flight	8
Turbulence	11	5	Th. of Flight	11 & 12
Adult	8	1	Sunfish	4
Larva	7	1	Sunfish	4
Pickerel	14	1	Sunfish	10
Sperm	9	3	Sunfish	5
Gridiron	Over	1	Gr. of Cities	11 & 12
Iroquois	Over	1	Westward Movement	8
Yaw	20	6	Pr. of Flight	8
Torque	Over	1	Pr. of Flight	11 & 12

This list brings several surprising facts to light. First, many of the words on which there was a significant amount of improvement were from the upper word levels of the Thorndike word list. In fact five of the words in this list are outside of the 20,000 most common words given in Thorndike's list and two are from the twenty thousand word level, the highest level included in the list. This indicated that the most difficult words rather than the supposedly less difficult words were most frequently learned; a fact not anticipated before the investigation had been made. One would suppose that children would be most likely to improve on words from the lower levels. These findings are in direct contradiction to the conclusions reached by Gray.¹

Second, one would expect the words on which children showed significant gain in knowledge of meaning to be those used rather frequently throughout a film. This did not prove to be the case. Twelve of the seventeen words were used only once in the films.

Third, one would expect the pupils from the upper grades to be more frequently represented among the groups showing significant gain on these words. However, again this did not prove to be the case. It was more frequently the lower grades that made significant gain.

Returning to the categories previously mentioned, the words on which pupils made significant improvement were classified according to these same four classifications. The results are given in Table IV.

¹H. A. Gray, "Vocabulary Teaching Possibilities of Sound Film," *Modern Language Forum*, XXV (December, 1940), 209.

TABLE IV
WORDS ON WHICH PUPILS MADE SIGNIFICANT IMPROVEMENT
DEFINED OR ILLUSTRATED

	Number	Per cent
Words defined and illustrated	2	11.8
Words defined but not illustrated	0	0.0
Words illustrated but not defined	10	58.8
Words neither defined nor illustrated	5	29.4
Total	17	100.0

A majority of the words on which pupils made significant gain as a result of seeing the film were words illustrated within the films. The word "yaw," defined and illustrated in the films *Theory of Flight* and *Problems of Flight*, was a word on which every group of children viewing the two films made a significant gain. The children demonstrated a gain in knowledge of a surprising number of words which were neither defined nor illustrated.

The findings presented here are difficult to interpret. Undoubtedly much more research is needed. However, in spite of the data set forth above, it would still appear correct to assume that if difficult words are to be used in films and if the meanings of these words are to be taught, then such words should be defined and illustrated, at the least, illustrated.

V. EFFECT OF VOCABULARY DIFFICULTIES

It will be recalled that the fourth question read: What is the effect of vocabulary difficulties upon the learning of the content of films? In order to answer this question, it was necessary to construct and administer tests covering the subject matter of the films being studied. These tests were administered to the same pupils and at the same time as were the vocabulary tests. That is to say, a content test, as well as a vocabulary test, was given on a film previous to the viewing of the film by a particular group of children. This same subject matter test, as well as the vocabulary test, was repeated after the viewing of the film.

As a result of data secured by means of the questionnaire, previously referred to, the vocabulary tests and the subject matter tests, it was possible to determine to some degree the influence of vocabulary difficulties on the learning of content.

The first step taken was to find the relationship which existed between the opinion of pupils concerning vocabulary difficulties encountered in viewing the films and the gain in knowledge of the content of the films. The opinion of pupils was obtained by means of the questionnaire. The knowledge of content was measured by means of the content tests. When the responses of the pupils to the questionnaire item, "Do you believe that, if easier words had been used, you would have understood the film better?" and gain of knowledge of content were compared, it was discovered that little relationship appeared to exist. That is to say, on the one hand, the pupils from the lower grade levels believed that easier words would have made the film easier to understand; while on the other hand, these same pupils from the lower grade levels made the most gain in knowledge of content.

The second step taken was to discover the relationship of the mean vocabulary level of the films to the gain in knowledge of content of the films. The mean vocabulary level may be defined as the "average level" of the words used in the films when compared with the Thorndike list. It was determined by the formula of the mean vocabulary level which equals the average level plus the sum of the frequency times the deviation divided by the number of cases times the interval. Thus the mean vocabulary level for the film *Growth of Cities* was found to be the three thousand two hundred and seventh word while that of *Sunfish* was discovered to be the two thousand and forty-ninth word.

When the comparison between the mean vocabulary level and the gain in content was made it was found that the lower the mean vocabulary level the greater the gain in content. Thus from this comparison it could be concluded that a simplification of the vocabulary of certain films might lead to greater gains in content learned.

The third step involved correlating the performance of pupils on the vocabulary tests, given previous to the viewing of the film, and performance on content tests, given following the viewing of the films. These correlations were made for 20 of the 22 classes of approximately 40 pupils included in the experiment. The coefficients of correlations obtained were found to hover around .50. The highest coefficient obtained was $.85 \pm .001$ with the lowest $.36 \pm .121$. Therefore, it appeared that a positive correlation of approximately .50 existed between the pupil's knowledge of the difficult words used in the verbal accompaniment previous to the viewing of films and scores obtained on content test administered following the viewing of the same films.

VI. CONCLUSIONS

Insofar as these data are adequate and accurate, the following general conclusions seem valid:

1. Until recently, few persons have been interested in studying in detail the vocabulary and comprehension difficulties of classroom sound motion pictures.
2. The vocabulary burden of films is heavy when compared with textbooks read by children. When compared with comic books the burden appears to be light. Since comic books and the film have the common element of pictorial presentation, an element absent from textbooks, the latter comparison is probably more justifiable and significant.
3. The vast majority of the supposedly difficult words used in the verbal accompaniment to films are neither illustrated nor defined; however, it is nevertheless assumed that if difficult words are to be used in films and if the meaning of these words is to be taught, such words should be defined and illustrated. Until producers of film exercise more caution in the choice and use of difficult words, teachers must make certain that they aid children to understand technical terms.
4. There appears to be a reasonably close relationship between vocabulary difficulty and content learned. Pupils learn most content from films that have less difficult vocabulary.
5. Further research on the topic is needed.

OUR IDIOMS OF MUSICAL EXPRESSION

Warren D. Allen
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A celebrated jurist is said to have remarked to his daughter before a concert: "Enlighten me, my dear, as the music proceeds, in order that I may dilate with the proper emotion." Books explaining music seem to be in great demand; laymen do not trust their own dilating emotions. The uninstructed music-lover knows that music affects him profoundly. If he has an inquiring mind, he wants to know why and what is the mysterious power of music. He reads the lives of great composers and is told that music has helped to mold Western civilization. But the more he reads *about* music, the more he can remove himself from actual musical experience.

Books about music have to assume that the reader already has some musical experience. Without the latter, most of these books are as intelligible as the "gobbledy-gook" of a visiting Martian. We who write about music have an unsolved problem before us. Webster defines 'composition' as the formation of a whole "by placing together and uniting different things, parts and ingredients." How can a musical composition be described, how can its "parts and ingredients" be understood, in terms of everyday experience?

Books on "The Elements of Music" explain melody, harmony and rhythm by isolating such "parts and ingredients" as scales and modes, intervals and chords, rhythms, measures and meters, timbres or tone-colors. Program notes explain the "forms" of music in terms of phrases, sections, themes primary and secondary, exposition and development, entrances and rests, stretti in diminution and codas in augmentation, inversions and recapitulations until the reader is dizzy.

These are all important items for the student of music, but even for them they are meaningless unless and until he realizes that the whole is greater than and different from the sum of its parts. Syllables and phonemes, words and phrases, sentences and paragraphs, are parts of speech and ingredients of literature; but literary composition is not achieved simply by stringing parts together.

At the opposite extreme from the scientific analysis of musical 'form,' are the romantic attempts to explain the emotional content of music. This operates in "program music" in which the composer attempts to paint pictures and tell stories. But when the explanations are not satisfying, modern aesthetics calls the romanticist to task. Since we do not explain *why* this theme expresses sorrow, and how that one portrays the heroine on horseback, some theorists have decided that Music is "entirely dependent on abstract tonal patterns," that it can mean nothing beyond itself, that nothing matters but "sound material."

No phenomenon is ever explained on a negative basis, however. It must be possible to explain the "materials" of music (as distinguished from 'form') in terms of expression. *The materials of Music, like the materials*

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of Literature, are expressions of human thought and feeling common to us all.

Perhaps we can isolate some basic idioms of musical expression encountered in everyday life, idioms used by all great composers, idioms which strike responsive chords in the mind and body of every reader. If so, an answer may be provided to those who claim that music cannot express, represent or communicate anything definite; that "abstract tonal patterns" are the stuff of which music is made. What is more important, we may find a new basis for studying the History and Appreciation of Music.

On all sides we are challenged to define more clearly the symbols by which we live. This is as true in music as in the realm of our powerful word-symbols. The two are sometimes vitally connected. Most students of musical symbols interpret them merely as signs to be obeyed, signs for depressing certain keys, or blowing, blowing or breathing at certain times. Most listeners hear music as a sensuous experience undisturbed by visual symbols. But they are nevertheless profoundly affected by the aural symbols of musical expression. This fact is recognized under totalitarian dictatorships where music, like other social symbols, is rigidly controlled. It is *not* recognized in the democracies, unfortunately. In America, however, music's power is used for commercial purposes, to "break down sales resistance" (and other resistances also).

Music cannot denote and define, but its connotations are more effective than words, sometimes. These meanings in music have been arrived at just as we have come to agree on the meaning of words—by social usage.

Ten Different Idioms of Usage and Expression

Man engages in ten different activities which call forth certain idioms of expression in music. He sings at hard tasks and as he carries heavy burdens. He issues commands to the lethargic, with drum-rhythms and bugle-calls. He gathers with his fellows in religious devotion, and is awed with the mystery and power of liturgical music. He enjoys group singing (a cultivated taste). He calls for the music which accompanies his dances; he expresses joyous ecstasy and sings of spiritual and romantic love. He declaims dramatically. He imitates the sounds of animals and of nature. He shows off his skill or virtuosity. Last but not least he plans and chooses materials with which to carry out designs—in both architecture and composition.

1. The Intense Idioms of Hard Work and Heavy Burdens

Work-songs, like the activities which evoke them, require *intensity*. Work-song idioms employ the natural tendencies of a workman who sings as he works—with his whole body.

Comparative musicology indicates that the natural trend of vigorous song is from high notes downward. This is sometimes called "pathogenic" melody, the expression not only of "passion and motor impulse," but also of intense suffering, in "figures of lamentation."¹

This natural trend is found in all the heavy work songs quoted by Karl

¹See Erich von Hornbostel's *African Music*, Oxford Press; Curt Sachs, *The Rise of Music in the Ancient World, East and West*, Norton, 1943, p. 52; and Erich Soranin, *The Problem of Musical Expression*, Nashville, Marshall and Bruce, 1932, Ch. V.

Bücher (*Arbeit und Rhythmus*) and in collections of work-songs made in this country by Carl Sandburg, the Lomaxes and others. Hammering songs allow for blows on rests. Both idioms are used instinctively by Verdi in his "Anvil Chorus" (*Il Trovatore*), and by Wagner in Siegfried's song of the forge.

Among the American negroes humor lightens work, but the musical idioms remain basically the same. The history of work-songs is often bound up with that of slavery. Poignant sorrow therefore employs the same idioms as those of work. As Sorantin shows, "figures of lamentation" abound in the great masters. The evidence for them is so strong that we have our clues for the meaning of these terms in instrumental music without words. (Compare, for example, the aria, "Grief and pain," from Bach's Passion Music Accord to St. Matthew, with the Two-part Invention in F minor.)

Before the invention of firearms soldiers sang work-song idioms in battle, because they fought directly with hand-weapons similar to field tools—hammers, bludgeons and axes. This is evidenced by The Agincourt Song, sung after mowing the enemy down in 1415; the contemporary hymn of the Hussites, and "Gentils galans de France" sung by the soldiers of Joan of Arc. Songs of proletarian revolt always use these idioms.

With the glorification of work in China and the Soviet Union, the work-song idiom is returning, in modern soldier songs. The world is tired of banal fanfares and drum marches and all that they represent. Their power is still potent, however.

2. *The Onward-and-Upward Idioms of Command*

With the invention of firearms and their use in the early 16th century, the drums of mercenaries and landknecht soldiers took over and soldier songs were adapted to these rhythms. At the same time bugle-calls employed drum-rhythms, and the regular measures of the march took the place of the irregular sweeps of the work-song idiom. Bugle-calls are opposite in character to natural vocal melody, because the low notes are easier to play and the trend is upward.

The motor impulses of drum-marches and trumpet fanfares has been the basis of nationalistic music ever since the Reformation. Militarism has always encouraged command idioms in entertainment music. National hymns, since *La Marseillaise*, have usually been based upon them. The Germans, trained to obey, find them congenial. German romantic music, however, uses the command idioms in solemnity and repose. The fanfare, played with breadth of tone, typifies the German love for harmony.

The brass choir, since the days of the Romans, must have made the major triad a common, everyday experience in musical life. It did not get into musical art, however, until after the Reformation and contemporary changes in warfare and war-music. The first evidence of the popularity of command idioms in art music is in Janequin's "Battle of Marignano" (1547), in which the entire score is based upon bugle-calls, drum-rhythms and here and there some imitations of cannon-shots. Banal as they are, they still remain the most exciting of all musical idioms.

3. *The Serene Idioms of Religious Ritual*

The intoning voice of the priest at the altar, the world-wide preoccupation with solemn bell-tones and the simple, compact melodies of

Gregorian psalmody are typical of the ideal idioms of religious ritual. When the object is cultivation of serenity, when the language is that of prayer and adoration, the expressive music appropriate for the purpose is the opposite of the martial idioms of command, but both are imposed and standardized by authority.

Monodic (one-voice) motives are traditionally basic in all religions. The priestly call to worship is an idiom which assumes and cultivates spiritual unity.

After the Reformation and during the Counter-Reformation, with the neglect of plainsong, the idioms of harmony came to replace the flowing monody of Oriental origin. Partially this was because the commanding harmonies of brass were made quiet and reposeful. Mainly, however, it was due to two tendencies in choral singing.

4. *The Idioms of Gregarious Singing*

Judaism and Christianity introduced gregarious singing for the love of it. This is rare in other cultures, where singing is usually associated with dancing, drama, or work of some kind.

Western Christianity developed a gregarious type of community quite different from that of the East. The Eastern Mediterranean influence has always been in favor of monody and solo singing. But Northern monks, rebelling against monodic ritual idioms, developed arts of polyphony which have always remained rudimentary in tribal and oriental cultures.

Greek 'heterophony' was the result of near-unison singing, with each singer making slight variants in the melody. Medieval polyphony extended this practice at times, but was a highly developed genre of composition, sometimes with totally independent parts. In the Renaissance, composers began to compose polyphonic idioms of *imitation*. In the latter, voices imitate each other by singing the same melody at different times. Strict imitation produces the familiar canon and round. Free imitation, calling for modification and development, reached its climax in the fugue textures of Bach and Handel.

The gregarious idioms of blending, or harmonizing, are also manifestations of our instinct to imitate each other. This, combined with command idioms, characterizes the harmonic music of nationalism. In these idioms the imitation is of tone-color, as in choirs or families of voices and instruments. The brass choir and the male chorus, for example, even the lowly "barbershop quartet," employ these idioms.

Since the Romantic Era it has also become habitual to imitate each other's dynamics, so that everyone increases and diminishes the tone at the same time—a modern and over-worked phenomenon.

These facts of human imitation and competition are not stressed in our histories of music. Much emphasis has been placed upon acoustic factors, "laws of nature" and so on. Important as these are in explaining harmony, our arts of harmony represent processes of human adjustment, not mere juggling with "tone-relations." Polyphony began with monks who played around the sacred melodies.

5. *The Lyric Idioms of Loveliness*

The austerity of ritual music was also relieved by the ecstatic *Alleluia*

or *jubilus* improvised by imaginative monks. These sensuously curving lines of melody have ever since been the prototypes of our music expressive of adoring sentiment. This type of melody is, in fact, the criterion of musical beauty for most people. It is the melodic idiom of *bel canto*, the type fostered by song-loving Italians. Flutes and strings are the instruments most flexibly receptive to it.

The use of the thirds in gymel, or twin-song, the tendency of the European system toward a chord structure based upon thirds, and the intertwining duet in which two voices sing lyric melodies, thirds and sixths apart, all indicate the importance of these close intervals in Western music. From the medieval offerings (offertories) of the ecstatic self in song to the idealization of romantic love in the great *Lieder*, these idioms, for solo voice, possess deep spiritual meaning.

The sentimental tendency to exaggerate loveliness turns the sensuous into the sensual, the love idioms into eroticism. In the modern "commercial style," with its suggestive dynamics, lush orchestration and languid rhythms, the meaning is obvious, and purposely so.

6. The Buoyant Idioms of Dance Music

Dance is the art of movement. Music for dancers is dictated, therefore, not by the musicians but by those who do the dancing. Dance has been called "life on a higher level." Etymologically, the word *danse*, *danson*, suggests stretching, tension and release. Dance music has to keep up a continuous feeling of vitality, up and away from the earth which pulls us downward. The characteristic idioms of dance music are therefore buoyant rhythms with emphasis on up-beats.

The march is a form of dance, although a very banal one; whenever the tendency is to emphasize down-beats, as in the *Polonaise*, the dance is march-like in character. But when marches emphasize up-beats, as in the American two-step, then the march is dance-like in character.

The instrumental idioms of dance music have employed all media, but the violin family, wood-winds and percussion are favorites.

The martial music of pipes and reeds is first cousin to the fiddle-music and hurdy-gurdy tunes of the vigorous country dance. The history of dance music illustrates perfectly the perennial history of music—from rough vitality to polite refinement (and back again).

7. The Speech-Idioms of Dramatic Music

At this point music and language meet in the realm of meaning. Speech-music is ordinarily known, in opera, as *recitative*, the type of melody which is forced into the molds of spoken language. The classical recitative was used to offer a contrast to the inevitable air, or *aria*, which followed. In the latter the words were forced into the measures of duple-duple popular form.

In modern opera and song speech-idioms are increasingly important—more so than in the cut-and-dried recitative of old. Reciprocal studies of music and language have barely begun to be taken seriously in our schools. Students of composition, taught that music is "abstract," too often fail to realize that spoken words can and do inspire fascinating music. Students of

language and semantics often fail to see the contribution music makes to meaning. Words spoken with the wrong inflection (melody) can convey meanings the opposite of those intended. The right inflection or melody can convey meaning, even without words.

Rhythm conveys meaning as well as inflection. Words spoken with the wrong rhythms and misplaced accents are "mispronounced." Sentences change their meaning with every shift of accent. Try asking, "I hope you are feeling well," the six possible ways, with, each of the words accented in turn. Note the different meanings, write down the notation for each and one of the contributions music study can make to semantics will be clear.

When dramatic music does not employ words, however, other types of idiom are necessary.

8. *The Descriptive Idioms of Dramatic Music*

It is around these idioms that most of the futile arguments have raged concerning musical meaning. Of course no instrumental music without words can portray people getting into a boat on a dark night. But I once sat in a Hollywood projection room and heard staff-composers discussing just such a scene in a picture. The question was, shall the music suggest love or shall it suggest mystery? Music expressive of loveliness would have made that scene mean one thing; but music suggestive of hesitation, gloom and foreboding would have meant something quite different. Music had to assist the story at that point—*without the aid of words*.

Neither music nor language nor pictures can take the place of the others, but all are necessary to convey the full meanings life has to offer. Music may be and is an auxiliary in the realm of definite meaning; language, on the other hand, is inadequate to convey the meanings which only music can convey.

Wagner's "leading motives" are ridiculous if looked upon as mere labels for his characters and moods. But they are usually more than that, because he had an uncanny sense of musical meaning. All of the idioms described above are found in his scores. His "Rainbow Motive" in the finale of *Das Rheingold* is not merely a graphic picture of the rainbow on the staff. It employs the commanding idiom of the ascending arpeggio as Wotan beckons the gods toward Valhalla. At the same time there is a sweep of lyric ecstasy about it in that grandiloquent curve.

9. *The Idioms of Virtuosity—Difficulties but not Impossibilities*

These idioms are found in *Studies* or *Etudes*. Many students have slaved over these for hours daily without ever learning that other idioms exist in music. The artist-virtuoso, however, finds other idioms in the great studies.

Virtuosity is too often sought for its own sake alone. That does not mean, however, that the virtuoso idioms of variation, with difficult passagework, scales, arpeggios, all the devices of the coloratura soprano, the double-stops and harmonics of the violinist are an "inferior" type.

Virtuosity is a world-wide and timeless phenomenon, from the amazing work of Balinese gamelan players and African xylophonists to the "hot" variations of "swing"; from the ecstatic Alleluias of the Middle Ages to the "Mad Scene" from *Lucia*.

Virtuosi, like drivers of racing cars, have always challenged makers of instruments to improve their products and have at times shown the way.

Virtuosity, after all, is a word closely related to *virtue*. A task well done is always worthy of admiration. It is fashionable to depreciate virtuoso music as if it were useless decoration. Decoration is certainly not useless; nor is it meaningless if it is in good taste.

As Suzanne Langer says, "Sheer self-expression requires no artistic form whatever."¹ The virtuoso must cultivate the sense of form, but should not be dominated by rigid form. The "swing" virtuoso improvises entirely within the rigid four-measure popular form. If he can free himself in rhapsodic form and show freedom in the playing of classics with their elusive, never-the-same forms, then he is an artist.

10. *The Structural Idioms of Composition*

Building materials have to be firm, strong and durable. These are not the only criteria, however. They also need to be appropriate for the needs of particular buildings in particular places. And building materials need not lose their "expressive" nature. They always carry with them the connotations of the geological, biological and topographical nature of the environment from which they emerged. Granite comes from "young" mountain-ranges seeking the upper air, pushed up from Mother Earth. Marble suggests the opposite; it has endured terrific pressures from above and has the dignity of mature old age. Redwood brings the aroma of California forests; pine, fir and spruce suggest other sylvan haunts. Bamboo stands up under earthquakes and brings order out of the jungle; even straw thatch makes a very good roof in wet climates. Steel, bronze and concrete always express the ingenuity of man in synthesizing new materials from old, better for certain purposes.

So it is with the "structural materials" of musical architectonics. Idioms of "marble-like" serenity suggest the metamorphic rock of Petrus and the Fathers, the ritualistic basis of music for centuries. Inventive genius forges themes of "bronze" and "steel," but not without the flaming iron and "copper" of work- and command-idioms used in labor, revolution and war.

Plastic materials are shaped into tonal loveliness. The "sand and gravel" of popular music, in the streams of every-day life, flow in and out of our consciousness. But with the cement of Style and Personality, the idioms picked up in dance-hall, tavern, theater and church make enduring music which gives perennial pleasure.

Beethoven, for example, begins with a trumpet-type of melody in his *Eroica*; it would be a commanding motive in a call to arms, a national anthem or a military march. Beethoven uses it as a structural idiom, but it retains the character appropriate for a "heroic" symphony. Beethoven chose it for that reason. The commanding idioms appear also in the insistent drum-rhythms which appear in the inner voices, providing a stylistic 'cement' without which the musical structure would fall apart. But as the structure unfolds to our ears, lyrical expansion transforms the line into one of *ecstatic* expression. Mozart had already used this "trumpet-type" of

¹Suzanne Langer, *Philosophy in a New Key*, N. Y., 1942, p. 216.

melody with sentiment in a love-idiom (in *Bastien and Bastienne*). Beethoven combines, therefore, strength and sentiment in immortal design. Writers of "symphonies" today, absorbed in the delights of color effects, might study with advantage the symphonic principle which demands the moving inner voices which provide continuity for all sorts of idioms made intelligible through centuries of social usage.

The suggestions of work-song idioms in Dvorak's "New World" Symphony do not hamper the composer's symphonic craftsmanship, nor do the ecstatic love-idioms in the music of Brahms, with his exquisitely curved melodies and frequent use of harmonized thirds. The idioms of grief and lamentation in Tchaikowsky's *Pathétique* Symphony are not the factors which occasionally halt his symphonic continuity. The structure falls apart whenever he stops to interpolate a lyric gem in popular song-form.

The popular-song writer is the only musical "composer" who has a given form to work with. *All other "forms" in music are fluid, elastic, and indefinable—except in general terms.* There is no such thing as a "song-form" except the duple-duple form blessed by biology and convention. All other structures have form, of course; but when analyzed for form alone show nothing but a skeleton. And skeletons are notoriously devoid of personality. Music must live, to be music. There can be no musical form apart from content or texture. The idioms of musical usage give life and meaning to the form.

Speculative Idioms

The composer is free to invent any structural idioms he pleases. He is free to say, as Stravinsky does, that nothing matters except "*la matière sonore*." He may employ the idioms of social usage willy-nilly, however, as Stravinsky does over and over in his music for ballet, in his "Story of the Soldier," and even in non-descriptive music.

When the composer-theorist sets out consciously to avoid all the idioms described above he goes over into the realm of "speculative music." As Manfred Bukofzer says of "Speculative Thinking in Medieval Music" (*Speculum*, Apr. 1942), "numerical proportion supplied, as it were, the formula of the universe, comprehensible to the intellect alone." Today, as in the Middle Ages and early Renaissance, we have composers who work with symbols, not with regard to their meaning in social expressiveness, but with interest in symbolism for its own sake. But the modern speculative composer labors under a grave disadvantage. His medieval forebears were seeking for the meaning of great universal truths, as were their clerical contemporaries in theology and mathematics.

What truths are modern composers seeking? A world in crisis has a right to ask that question. World understanding will not be brought about by any meanings or means "comprehensible to the intellect alone." The children of darkness are indeed wiser in this generation than the children of light. The former, seeking to extinguish the light of intellect and reason, know and use the power of expressive musical idioms in molding social emotional attitudes. The children of light ignore this power at their peril.